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ABSTRACT

Since a large number of the pupils at each of the three schools examined in this document had shown a need for compensatory services, they were classified as Title I schools and thus were qualified to receive supplementary funds and additional personnel through Title I, 1965 Elementary and Secondary Education Act grant allocations. In addition, instructional assistance was available through the local Comprehensive Instructional Program to assist the faculties in implementing their programs. The nongraded instructional program at Reynolds School, incorporating the team teaching concept, was developed specifically to attempt to meet the identified needs of the pupil population. The Robinson School program was directed toward developing and improving the reading skills of the pupils in the elementary grades. A secondary focus was a new experimental approach toward individualizing mathematics. At C.W. Hill School seeking approaches to raise the performance levels of the pupils was a major concern of the staff. Based on the rationale that early development of basic reading skills is very important to future success, grades one through three were chosen for indepth study. Special emphases were also placed on the lowest achievers since special activities in reading were planned to improve their performance. (Author/JM)

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RESEARCH AND DEVELOPMENT REPORT

Vol. VI, No. 16 December, 1972

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1971-72

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TABLE OF CONTENTS

	Page
RATIONALE	1
Supporting Projects	
Comprehensive Instructional Program	1
ESEA Title I	1
Media Utilization Services for Teachers	2
Teacher Corps Program	2
Career Opportunities Program	3
Needs of the Pupils	3
Goals of the Program	3
Behavioral Objectives	4
Variables to be Measured	4
MANAGEMENT AND CONTROL	5
PROCESS	
Attendance	6
Self-Concept	7
Basic Reading Skills	7
EVALUATION	
Research Design	8
Findings	8
Academic Achievement	8
Self-Concept	14
Attitude Toward School	15
Openness of School Climate	16
Attendance	16
COST ANALYSIS	18
CONCLUSIONS	22
RECOMMENDATIONS	24
APPENDIX	

LIST OF TABLES

Number		Page
1	Summary of Pupil Performance on the Metropolitan Readiness Tests and the Metropolitan Achievement Tests Reading Subtest -- First Grade	9
2	Distribution of Letter Rating and Readiness Status Corresponding to Various Ranges of Total Score on the Metropolitan Readiness Tests and the Metropolitan Achievement Tests Reading Scores -- First Grade	10
3	Comparison of Metropolitan Achievement Tests Mean Reading Pretest and Posttest Scores, Mean Reading Gain, and Per Cent of Expected Gain for Grades 2, 3, and 5 -- Including MUST Project Pupils	11
4	Longitudinal Profile of the Reading Performance of Pupils Who Took Both Pretest and Posttest in 1970-71 and 1971-72 for Grades 2, 3, and 5	12
5	Longitudinal Profile of Effectiveness and Acceptability of the Reading Program -- 1971-72 and 1970-71	13
6	Profile of Effectiveness and Acceptability of the Arithmetic Program -- 1971-72	14
7	Per Cent of Positive Responses on the Self-Appraisal Inventory	15
8	Per Cent of Positive Responses on the School Sentiment Index	15
9	School Profile of Standard Factor Scores on the Organizational Climate Index	17
10	Yearly Per Cent of Attendance for Grades One Through Three, Total School Average, and City-wide Average for Elementary Schools in 1971-72	18
11	Correlation Between S_3 Group's Reading Gain Scores and Attendance For Grades Two, Three, and Five	18
12	Cost Analysis of Reading Gains by Grades, Total School Average Daily Attendance for Grades K -- 5	19

RATIONALE

C. W. Hill Elementary School serves a pupil population in kindergarten through fifth grade in one of the Title I target areas. Consequently, it receives compensatory funds to supplement its regular budget. As is true in all schools receiving compensatory funds, a study is made each year to determine the effectiveness of the program in utilizing these funds to improve pupil progress. The purpose of this report is to present the findings of the study conducted in FY 72.

Performing below grade level and limited annual gains are prevalent factors among the pupil population. Seeking out approaches to raise the performance levels of the pupils was a major concern of the staff. Based on the rationale that early development of basic reading skills is very important to future success, the first three grades (1-3) were chosen for indepth study. Special emphases were also placed on the lowest achievers since special activities in reading were planned to improve their performance. Consequently, the performance of these pupils will be analyzed. Further, longitudinal performance of pupils in reading will be analyzed by grades for which these data are available.

Supporting Projects

Comprehensive Instructional Program

The purposes of the Comprehensive Instructional Program (CIP) are to insure growth in reading for each pupil through diagnostic teaching and inservice training for teachers, and to establish a minimum professional floor for teachers. During the first year of implementation, 1970-71, the program concentrated in grades 1-3 in reading. Inservice training was provided for teachers following the identification of problems by principals, coordinators, resource people, and teachers using the Georgia Education Model (GEM) evaluation instruments. This project did not specify the reading program to be followed in any school. However, each school was to implement a comprehensive reading program which would provide for sequential development of word attack and comprehension skills.

Elementary and Secondary Education Act -- Title I

The purpose of Title I is to provide compensatory education for the most educationally deprived pupils enrolled in a Title I school. Toward this goal, the following services were provided at Hill School:

A. Lead Teacher

The lead teacher served in a full-time position. Her services included planning, organizing, and coordinating the total instructional program with special emphasis on improving the educational opportunities of the lowest achievers in reading.

B. Educational Aide

Six educational aides were assigned to Hill School under Title I. These aides, under the supervision of the lead teacher, assisted teachers with preparing materials, provided small group and individual instruction for pupils needing special help, and performed other tasks related to improving the learning opportunities of the lowest achievers.

C. Social Worker

The services of the social worker were shared among a group of schools in the local area. The equivalent of two days per week was spent at Hill School working with pupils who had attendance problems.

Media Utilization Services for Teachers

The Media Utilization Services for Teachers (MUST) program was a federally funded project committed to working with teachers to develop ways in which media might be used to improve the instruction of educable mentally retarded (EMR) pupils or slow learners in the Atlanta Public Schools. At Hill School, MUST provided two teams of one teacher and an aide. One team provided instruction for EMR pupils on the primary level and the other team provided instruction for EMR pupils on the middle grades level.

Teacher Corps Program

The Cycle V Teacher Corps Program was a federally funded project designed to strengthen educational opportunities of children in low-income communities, and to encourage colleges and universities to broaden their teacher-preparation programs to include development of competencies needed to teach, particularly in deprived areas. Teacher Corps emphasized community-based education in order to extend the learning opportunities beyond the school to the home and the community.

The Teacher Corps team, composed of one team leader, three senior teachers, six interns, and one educational aide, was assigned to the first grade.

MANAGEMENT AND CONTROL

The Superintendent of the Atlanta Public Schools is appointed by the Board of Education and is authorized by the Board to administratively direct the instructional program of the school system. There are five area superintendents who, under the guidance of the Superintendent, are administratively responsible for all school programs. The area superintendent of each geographical area supervises the principals within that area. Also, within the organizational structure of the local school system, there are six assistant superintendents who direct the six divisions of supportive services to the instructional program. Among these divisions are: (1) Research and Development, (2) Instruction, (3) Personnel, and (4) Administrative Services. The functions of these divisions have direct impact on the instructional opportunities provided for pupils.

The Assistant Superintendent for Research and Development and his staff were responsible for developing new programs, evaluating the effectiveness of program activities, and disseminating information.

The Assistant Superintendent of Personnel and his staff assumed the responsibility of meeting the staffing needs of the instructional programs within the school and for project activities.

Inservice training for teachers, staff development, and curriculum development were directed by the Assistant Superintendent for Instruction and his staff. Within this division, the directors and coordinators of federal, state, and local projects and various curriculum areas worked with the staffs of other divisions, the area superintendent, the principal, and the teachers to implement programs and provide for the training needs of the school personnel.

The Area III Superintendent and his staff were administratively responsible for the school within the geographical area. His staff supervised and worked directly with the local school staff in implementing the instructional program at Hill School.

At the local school level, the principal was responsible for the administrative aspects of the school program. Included among these responsibilities at Hill School were assignment of teachers to classes, coordination of the total school program, supporting individual and group activities, conferring with parents, and providing for staff development.

The Title I lead teacher, under the supervision of the principal, was primarily concerned with the instructional program, with emphasis on learning opportunities for the lowest achievers; assisting teachers in finding innovative methods, in selecting and preparing materials, and in growing professionally. Further, the Title I lead teacher coordinated the activities of the Title I aides with those of the classroom teachers with whom the aides worked.

Under the provisions of Cycle V of Teacher Corps, a lead teacher and six interns were assigned to the first grade. These persons, with the three regularly assigned certified first grade teachers, formed a differentiated team which was responsible for all first grade pupils.

The Teacher Corps lead teacher, or team leader, served as a resource person and coordinator of the total differentiated team. The team leader shared the responsibility for the instruction which included long and short range planning and execution of learning experiences for the pupils in the first grade. The Teacher Corps lead teacher was also responsible for aiding each participant of the team (including self) in professional growth -- identified individual needs for inservice training and planned and executed those learning experiences.

The Teacher Corps interns assisted in planning and implementation of all activities of the team. Time was spent observing and assisting teachers. Each intern assumed more and more responsibility for teaching as the year progressed.

PROCESS

The following activities were directed toward meeting the goals of the program; thus, fulfilling the needs of the pupils. The activities are listed under the variable to which they were related.

Attendance

A. Written and telephone messages were sent to parents of pupils with excessive absences.

B. Parent-teacher-pupil conferences were held.

C. Home visits were made by the social worker and /or teacher.

D. Awards were given for perfect attendance.

E. Comparative attendance charts were kept.

Self-Concept

For the purpose of improving self-concept, pupils were given opportunities to participate in activities such as: (1) role playing, (2) sharing experiences, (3) participating as the listener or speaker, and (4) media experiences. Further, special honors, recognition, and awards were given for participation in various activities and for accomplishing various specific tasks.

Basic Reading Skills

The following activities were directed toward improving basic reading skills:

A. Auditory, visual, and motor experiences to improve perception.

B. Sight vocabulary experiences and phonics analysis experiences.

C. Comprehensive activities.

D. Oral reading experiences.

E Study habits experiences which would help the child to organize and interpret verbal and non-verbal materials.

F. Interorientation and appreciation experiences to help the child to make inferences.

Materials for reading included Scott-Foresman and Houghton-Mifflin basal reading series. Sullivan Programmed Reading, Science Research Associates (SRA) reading laboratories, and numerous audio-visual aids were used as supplementary materials.

There were approximately 231 pupils enrolled in grades 1-3, with three certified teachers and one educational aide assigned to each grade level. In the first grade, there were six Teacher Corps interns assigned in addition to the teachers and the aide. The over-all pupil-teacher ratio was approximately 25:1, excluding the Teacher Corps interns and educational aides.

Pupils were grouped heterogeneously within each grade; however, individualization of instruction was emphasized on each level.

The educational aides contributed to the program by assisting with small and large group and individual pupil instruction. Further, they counseled with pupils, calmed disruptive behavior, and assisted the teachers in performing many other tasks.

The Teacher Corps team worked as a differentiated staff to provide instructional activities for first grade pupils. Pupils were assigned in sections to the senior teachers. However, homogeneous groups were formed for instructional purposes and all members of the team assumed instructional tasks in keeping with the differentiated staff concept.

EVALUATION

Research Design

The general design used to study the program was one which determined the beginning and ending levels of pupils and denoted changes which occurred. The following procedures were followed to obtain data necessary for evaluative purposes.

A. Data collected by administering the Self-Appraisal Inventory (SAI) and the School Sentiment Index (SSI) to a sample of pupils in grades 1-3 were used to determine the pupils' self-concept levels and attitudes toward school.

B. Data collected by the Metropolitan Achievement Tests (MAT) through the City-wide Testing Program were analyzed to determine academic gains in reading and mathematics. The reading gains of pupils who were participants in the Media Utilization Service for Teachers (MUST) project were separated from the gain of pupils in the regular program. However, no comparison was made between the two groups because the MUST participants were identified as educable mentally retarded (EMR) pupils. Average grade reading gains (based on matched scores) of pupils (excluding MUST pupils) who took both pretest and posttest in FY 71 and FY 72 were compared to show a longitudinal profile of pupils who remained in the school during the two-year period.

C. The Organizational Climate Index (OCI) was administered to a randomly selected sample of teachers and the data compared to the 1970-71 results.

Findings

Academic Achievement

In the first grade, there were seventy-one pupils who took both the pretest (the Metropolitan Readiness Tests (MRT)) and the posttest (the Metropolitan Achievement Tests (MAT)). As shown in Table 1, forty-five pupils scored "C" or above and twenty-six scored "D" or below on the MRT.

Of the forty-five whose scores indicated readiness for first grade work, approximately three-fifths scored 1.6 or above on the MAT. Approximately one-third of the pupils whose scores indicated that they were not ready for first grade work scored 1.6 or above on the posttest (MAT). In general, one-half of the pupils scored 1.6 or above on the posttest.

TABLE 1

SUMMARY OF PUPIL PERFORMANCE ON THE METROPOLITAN READINESS TESTS AND THE METROPOLITAN ACHIEVEMENT TESTS READING SUBTEST
FIRST GRADE -- N = 71

MRT Scores Group	Number (S_3 Population)	MAT Scores 1.6 or Above No.	Per Cent	1.0 -- 1.5 No.	Per Cent
Scored C or Above	45	28	62.0	17	38.0
Scored D or Below	26	9	35.0	17	65.0

The distribution of scores on both tests is presented in Table 2. These data revealed that none of the pupils scored at "Superior" readinesss status. Further, these data revealed that nearly one-half of the pupils who scored "High Normal" readiness status, and more than one-third of those who scored "Average" readiness status did not score as expected on the MAT. Nearly one-third of those pupils who scored "Low Normal" and "Low" readiness status scored 1.6 or above on the MAT. These data seemingly indicated that special efforts were exerted to provide the individualized work needed by the "high risk" group, yet there was some lag in meeting the needs of the "Average" group.

Presented in Table 3, are data concerning grades two, three, and five. The fourth grade took the MAT only as a posttest and was, therefore, excluded from this table. These data show the number of pupils who took both pretest and posttest (S_3 population), the mean reading pretest and posttest scores, mean reading gain, per cent of expected gain obtained, and gain score t test. The data for each grade are presented to show the performance of all pupils in the grade, the performance of regular pupils, and the performance of the MUST pupils. The data on the MUST pupils, (because of their limited academic abilities) were separated to show whether their performance affected the scores of the total grade.

TABLE 2

DISTRIBUTION OF LETTER RATING AND READINESS STATUS CORRESPONDING TO VARIOUS RANGES OF TOTAL SCORE ON THE METROPOLITAN READINESS TESTS AND THE METROPOLITAN ACHIEVEMENT TESTS READING SCORES
FIRST GRADE
1971-72 -- N = 71

MRT					MAT	
No.	Score Range	Letter Rating	Readiness Status	Significance	1.6 or Above	Below 1.6
0	Above 75	A	Superior	Apparently very well prepared for first grade work. Should be given opportunity for enriched work in line with abilities.	0	0
12	64 -- 75	B	High Normal	Good prospects for success in first grade work provided other indications, such as health, emotional factors, etc., are consistent.	7	5
33	45 -- 63	C	Average	Likely to succeed in first grade work. Careful study should be made of specific strengths and weaknesses of pupils in this group and their instruction planned accordingly.	21	12
24	24 -- 44	D	Low Normal	Likely to have difficulty in first grade work. Should be assigned to slow section and given more individualized help.	8	16
2	Below 24	E	Low	Chances of difficulty high under ordinary instructional conditions. Further readiness work, assignment to slow sections, or individualized work is essential.	1	1

According to these data, none of the grades realized the objective (six months between pretest and posttest). However, the gains made by the pupils (excluding MUST) were statistically significant at the .001 level. Attention is called to the fact that, according to these data, the MUST pupils in each grade showed some gain in reading, perhaps as an effect of the special instruction which they received. Only in the second grade did their scores change the over-all grade average. Attention also is called to the fact that the pupils in each of the three grades gained approximately two-thirds of the expected gain.

TABLE 3

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS MEAN READING PRETEST AND POSTTEST SCORES, MEAN READING GAIN, AND PER CENT OF EXPECTED GAIN FOR GRADES 2, 3, AND 5 -- INCLUDING MUST PROJECT PUPILS

Grade	Number	Mean Score			Per Cent of Expected Gain	t Test
		Pre	Post	Gain		
2 (Total)	64	1.5	1.9	0.4	70.3	6.42***
2 (Regular)	52	1.6	2.1	0.5	80.6	6.39***
2 (MUST)	12	1.4	1.6	0.2	32.3	1.56
3 (Total)	65	2.0	2.4	0.4	66.0	5.20***
3 (Regular)	54	2.1	2.5	0.4	64.5	4.93***
3 (MUST)	11	1.7	1.9	0.2	32.3	2.06*
5 (Total)	67	3.4	3.8	0.4	65.7	4.85
5 (Regular)	54	3.5	3.9	0.4	64.5	4.73***
5 (MUST)	13	3.2	3.5	0.3	48.4	1.36

*Significant at the .05 level.
***Significant at the .001 level.

A longitudinal profile (excluding MUST) of the reading performance of pupils in grades for which these data were available over a two-year period is presented in Table 4. These data revealed that over a two-year period the reading progress of pupils has remained rather constant. Pupil performance was similar for both years. Again, the pupils gained, each year, about two-thirds of the expected gain. Further, the additional assistance provided by the Teacher Corps program does not seem to have altered pupil performance. At the end of the second grade, the pupils were almost a full year below their grade placement.

TABLE 4

LONGITUDINAL PROFILE OF THE READING PERFORMANCE OF PUPILS WHO TOOK BOTH PRETEST AND POSTTEST IN 1970-71 AND 1971-72 FOR GRADES 2, 3, AND 5

	1970-71				1971-72			
Number	Grade	Pre	Post	Gain	Grade	Pre	Post	Gain
42	1	C	1.6	---	2	1.6	2.1	0.5
39	2	1.4	1.8	0.4	3	2.0	2.6	0.6
34	4	2.8	3.3	0.5	5	3.5	3.9	0.4

During FY 72, pupils were not specifically identified for Title I services until after the posttest was given. Consequently, the effects of Title I were not assessed for this year.

The effects of the Career Opportunities Program (COP) could not be measured in that the COP participants worked with all grades. The performance of pupils at Hill School can be used for comparison with other similar schools without COP.

Members of the Division of Research and Development conducted a study of the effectiveness and acceptability of the reading program in 1970-71 and of the reading and arithmetic programs in 1971-72, in each elementary school. The findings of that study were presented in a separate publication. The data presented in Table 5 (Reading Program) and Table 6 (Arithmetic Program) are summary profiles which were taken from that study.

These data show the actual and predicted gains, the gain rate of effectiveness, and the index of acceptability over a two-year period in reading and a one-year period in arithmetic. The predictions were made on the basis of six factors, namely: per cent of attendance, stability of pupil enrollment, per cent of paid lunches, teacher-pupil ratio, pretest scores on the MRT, and per cent of pupils passing. The gain rate of effectiveness in reading differs from the per cent of expected gain (as presented in Table 3) for the following reasons:

A. Gain rate of effectiveness is the ratio of actual gain compared to predicted gains and per cent of expected gain is the ratio of actual gain to acceptable gain (one month for each month of instruction).

B. The effectiveness, acceptability data were obtained from unmatched median scores on the MAT and the data in Table 3 were obtained from matched mean scores on the MAT.

Despite the fact that the data were not exactly the same, the findings were similar; the second grade performed better in reading than any of the other grades.

TABLE 5

LONGITUDINAL PROFILE OF EFFECTIVENESS AND ACCEPTABILITY OF THE READING PROGRAM -- 1971-72 AND 1970-71

	Gain		Gain Rate of Effectiveness		Index of Acceptability	
Grade	Actual	Predicted	1971-72	1970-71	1971-72	1970-71
2	0.4	0.4	100	125	67	70
3	0.3	0.4	75	-0-	59	51
4	0.9	1.2	75	43	55	57
5	0.2	0.3	67	90	60	60
		AVERAGE	79	65	60	60

Note: The interval between pretest and posttest was from April, 1971, to April, 1972, for the fourth grade, and from October, 1971, to April, 1972, for all other grades.

According to the data presented in Tables 5 and 6, neither the reading program nor the arithmetic program was effective. Only the second grade reading scores and the third grade arithmetic scores equaled the predicted gain. None of the grades achieved the acceptable level of performance. Pupils performed at a level equal to two-fifths of the national norms in reading and two-thirds of the national norms in arithmetic.

Analyzing pupil reading performance over the two-year period, the gain rate of effectiveness increased in the third and fourth grades and decreased in the second and fifth grades. The increases were greater than the decreases, causing the over-all gain rate of effectiveness to be slightly higher (seventeen points) for 1971-72 than for 1970-71; however, the increase was not high enough to raise the level of acceptability. It remained constant. Again, the extensive amount of compensatory services did not appear to affect significantly the rate of gain of achievement in reading and mathematics.

TABLE 6

PROFILE OF EFFECTIVENESS AND ACCEPTABILITY
OF THE ARITHMETIC PROGRAM -- 1971-72

Grade	Gain		Gain Rate of Effectiveness	Index of Acceptability
	Actual	Predicted		
2	0.3	0.6	50	63
3	0.5	0.5	100	59
4	1.0	1.4	71	70
5	0.1	0.2	50	77
		AVERAGE	68	67

Self-Concept

The Self-Appraisal Inventory (SAI), developed by the Instructional Objectives Exchange, was administered to a random sample of sixty pupils from grades one, two, and three (twenty from each grade). According to these data, the group had an acceptable level of self-esteem (scored positively more than fifty per cent of the time) in peer relations, family interactions, scholastic endeavors, and general views of themselves. The data for the inventory are presented in Table 7. This group will be used as a comparison group for future assessments of self-concept in this school.

TABLE 7

PER CENT OF POSITIVE RESPONSES ON THE SELF-APPRAISAL INVENTORY

Number	Subscales			
	Peer	Family	Scholastic	General
60	66.0	59.0	71.0	72.0

Attitude Toward School

The random sample of pupils that was tested for self-concept also was tested for attitude toward school. The School Sentiment Index (SSI), developed by the Instructional Objectives Exchange, was administered to the pupils. The data collected by this instrument are presented in Table 8. According to these data, the pupils had positive attitudes (responded positively more than fifty per cent of the time) toward the teachers' behavior, relationships with peer groups, school subjects, the school as a social center, and general orientation to school. The lowest score was reflected in attitude toward relationships with peer group; however, scores on each of the factors measured indicated that the pupils had positive attitudes toward school relationships.

TABLE 8

PER CENT OF POSITIVE RESPONSES ON THE SCHOOL SENTIMENT INDEX

Number	Subscales				
	Teachers	Peer	School Subjects	General	School Climate
60	65.0	59.0	81.0	79.0	74.0

Openness of School Climate

A random sample of teachers at Hill School was asked to complete, anonymously, the Organizational Climate Index (OCI), developed by George Stern of Syracuse University. OCI presents the respondent with 300 statements which he is to answer true or false as applicable to his school. After compilation, the items on the OCI provide data from the respondent on thirty need-press scales postulated by Henry A. Murray and associates at Harvard University in 1938. Further analysis of these data produces six OCI factors which are called first-order factors. The first five first-order factors describe a second-order factor called "development press" which is the capacity of the organizational environment to support, satisfy, or reward self-actualizing behavior. Another second-order factor, "control press" which is described by impulse control, refers to those characteristics of the environment which inhibit or restrict personal expressiveness. A copy of Murray's Need-Press Scales and a copy of the six OCI factors and their definitions are presented in the Appendix.

Presented in Table 9 are data on the organizational climate at Hill School for a two-year period. The raw score for each factor was converted to a standard score with a mean of 50 and a standard deviation of 10. The higher the score on each factor, the more open the climate was perceived.

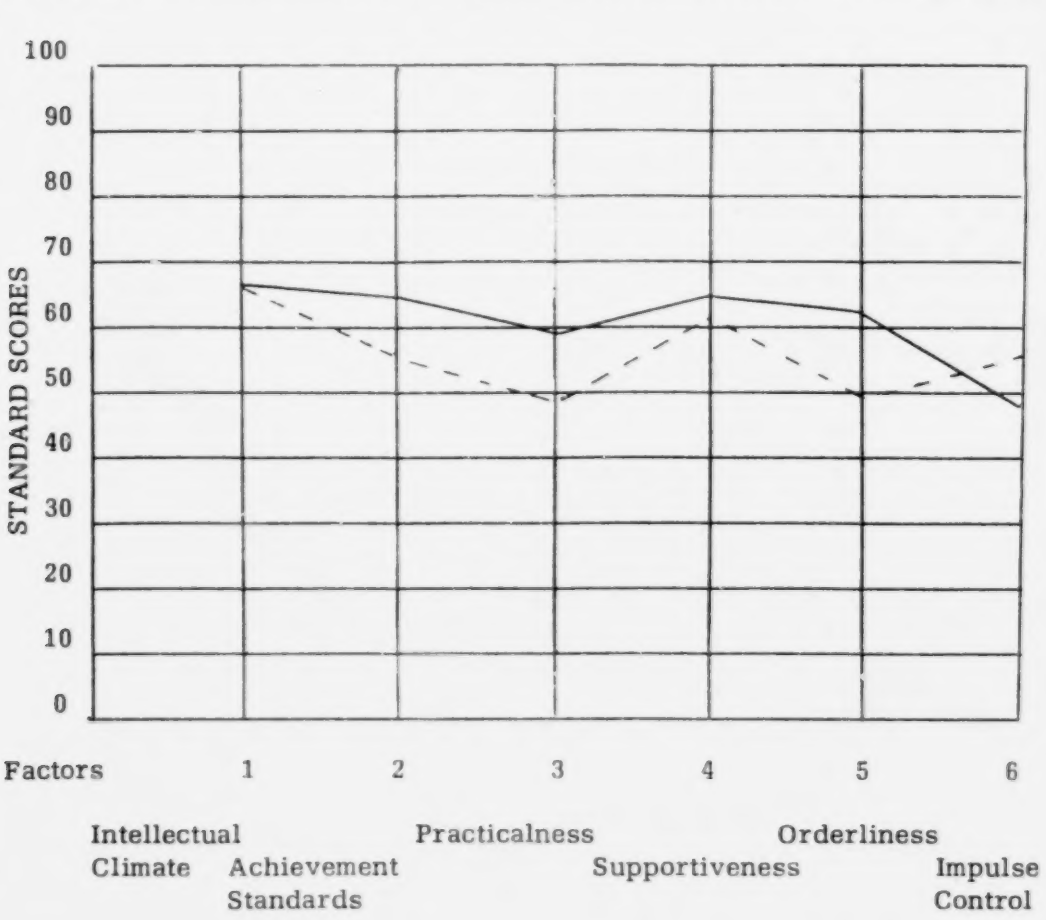
As shown in Table 9, the sample of teachers included in the FY 71 OCI study viewed the climate at Hill School as being supportive and satisfying to self-actualizing behavior. Scores on each factor were on or above the mean. In FY 72, the sample of teachers involved in the OCI study viewed the climate as being even more open than in FY 71. Scores were higher on each factor except Factor 6, which was only slightly lower. In summary, according to these data, teachers perceived the climate at Hill School as being conducive to intellectual activity, achievement, supportiveness, and self-actualizing behavior.

Attendance

One objective of the school was for pupils in grade one through three to obtain and maintain an average per cent of attendance equal to the city-wide average. Shown in Table 10 are the per cent of attendance for grades one through three, the total school (K--5) average per cent of attendance, and the city-wide average per cent of attendance. According to these data, only the first grade failed (by 2.1 per cent) to meet the objective. The total school average was slightly lower than the city-wide average.

TABLE 9

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON
THE ORGANIZATIONAL CLIMATE INDEX



In an effort to determine whether the effects of attendance were evident in pupil performance in reading on the MAT, correlation was computed between the S_3 group's (pupils who took both pretest and posttest) reading gain scores and attendance. According to these data, there was no significant correlation between attendance and reading gain scores.

TABLE 10

YEARLY PER CENT OF ATTENDANCE FOR GRADES ONE THROUGH THREE, TOTAL SCHOOL AVERAGE, AND CITY-WIDE AVERAGE FOR ELEMENTARY SCHOOLS IN 1971-72

Level	Per Cent of Attendance
First Grade	89.2
Second Grade	91.0
Third Grade	93.0
Total School	90.4
City-wide	91.3

TABLE 11

CORRELATION BETWEEN S_3 GROUPS' READING GAINS SCORES AND ATTENDANCE FOR GRADES TWO, THREE, AND FIVE

Grade	Degrees of Freedom	Correlation
2	62	0.07
3	63	0.13
5	65	0.06

COST ANALYSIS

The data presented in Table 12 show the relative cost for a one-grade-unit of gain based upon the rate of reading gain in FY 72, and the amount of funds spent. To compute these costs, expenditures were taken from the General Funds Report, June, 1972, and the Trust and Agency Report, June, 1972. From these figures estimates were made of the per-pupil cost from general funds and from special projects (compensatory funds). These data also show the cost in compensatory funds for each unit of effectiveness -- effectiveness as determined in the Effectiveness-Acceptability Study, 1972. The reader is cautioned that these data are not exact or finite; rather, broad estimates were made, based upon information obtained from the school staff relative to the utilization of resources.

TABLE 12

COST ANALYSIS OF READING GAINS BY GRADES
TOTAL SCHOOL AVERAGE DAILY ATTENDANCE
FOR GRADES K -- 5 = 390

	GRADES					
	First	Second	Third	Fourth	Fifth	Average
Average Daily Attendance (ADA)	70.0	70.0	71.0	63.0	78.0	70.4
Per-Pupil Cost						
A. General Funds						
1. Regular						
a. Salary	$ 968.98	$ 968.98	$ 968.98	$ 968.98	$ 968.98	$ 968.98
b. Non-salary	17.05	117.05	117.05	117.05	117.05	117.05
c. Total	$1,086.03	$1,086.03	$1,086.03	$1,086.03	$1,086.03	$1,086.03
2. CIP						
Salary	$ 0.15	$ 0.15	$ 0.15	$ 0.15	$ 0.15	$ 0.15
3. Total General Funds						
a. Salary	$ 969.13	$ 969.13	$ 969.13	$ 969.13	$ 969.13	$ 969.13
b. Non-salary	117.05	117.05	117.05	117.05	117.05	117.05
c. TOTAL GENERAL FUNDS	$1,086.18	$1,086.18	$1,086.18	$1,086.18	$1,086.18	$1,086.18
B. Compensatory Funds						
1. Teacher Corps						
a. Salary	$ 521.34	---	---	---	---	$ 521.34
b. Non-salary	6.48	---	---	---	---	6.48
c. TOTAL TEACHER CORPS	$ 527.82	---	---	---	---	$ 527.92

TABLE 12 (cont'd.)

	GRADES					
	First	Second	Third	Fourth	Fifth	Average
2. ESAP						
a. Salary	$ 0.27	$ 0.27	$ 0.27	$ 0.27	$ 0.27	$ 0.27
b. Non-salary	1.10	1.10	1.10	1.10	1.10	1.10
c. TOTAL ESAP	$ 1.37	$ 1.37	$ 1.37	$ 1.37	$ 1.37	$ 1.37
3. Title I						
a. Salary	$ 93.76	$ 93.76	$ 93.76	$ 93.76	$ 93.76	$ 93.76
b. Non-salary	9.16	9.16	9.16	9.16	9.16	9.16
c. TOTAL TITLE I	$ 102.92	$ 102.92	$ 102.92	$ 102.92	$ 102.92	$ 102.92
4. MUST						
a. Salary	$ 20.25	$ 20.25	$ 20.25	$ 20.25	$ 20.25	$ 20.25
b. Non-salary	0.73	0.73	0.73	0.73	0.73	0.73
c. TOTAL MUST	$ 20.98	$ 20.98	$ 20.98	$ 20.98	$ 20.98	$ 20.98
5. COP						
Non-salary	$ 7.69	$ 7.69	$ 7.69	$ 7.69	$ 7.69	$ 7.69
6. Total Compensatory Funds						
a. Salary	$ 635.62	$ 114.28	$ 114.28	$ 114.28	$ 114.28	$ 218.55
b. Non-salary	25.16	18.68	18.68	18.68	18.68	23.71
c. TOTAL COMPENSATORY FUNDS	$ 660.78	$ 132.96	$ 132.96	$ 132.96	$ 132.96	$ 242.26

TABLE 12 (cont'd.)

	GRADES					
	First	Second	Third	Fourth	Fifth	Average
C. Total Per-Pupil Cost						
1. General Funds	$1,086.18	$1,086.18	$1,086.18	$1,086.18	$1,086.18	$1,086.18
2. Compensatory Funds	660.78	132.96	132.96	132.96	132.96	238.52
3. TOTAL PER-PUPIL COST	$1,746.96	$1,219.14	$1,219.14	$1,219.14	$1,219.14	$1,324.70
D. Rate of Reading Gain (Per Cent)	97.0	70.0	66.0	---	66.0	74.5
E. Projected Cost for One-Grade-Unit Gain						
1. General Funds	$1,119.77	$1,551.69	$1,645.73	---	$1,645.73	$1,495.56
2. Compensatory Funds	681.22	189.94	201.45	---	201.45	314.87
3. TOTAL PROJECTED COST FOR ONE-GRADE-UNIT OF GAIN	$1,800.99	$1,741.63	$1,847.18	---	$1,847.18	$1,810.43
F. Gain Rate of Effectiveness	---	100.0	75.0	75.0	67.0	79.0
G. Expenditure per ADA of Compensatory Funds for Each Unit of Effectiveness	---	$1.32	$1.77	$1.77	$1.98	$1.71

According to these data, the per-pupil cost ranged from a high of approximately $1,700 to a low of $1.200. The per-pupil cost in the first grade was higher than in the other grades because of Teacher Corps. However, because of the first grade's higher rate of reading gain, the cost for a one-grade-unit of gain was nearly the same in all grades.

In relating cost to effectiveness, there were no indications that the amount of compensatory funds spent influenced the effectiveness of the reading program. Each grade (for which cost was computed) had nearly the same per-pupil cost in compensatory funds, yet only the second grade performed as predicted in the Effectiveness-Acceptability Study.

CONCLUSIONS

Based on the findings concerning pupil progress and the instructional program during FY 72, the following conclusions were drawn:

A. The objective that all first grade pupils who scored "C" or above on the Metropolitan Readiness Tests (MRT) would score 1.6 or above on the Metropolian Achievement Tests (MAT) was not met. Only about two-fifths of the pupils who scored in the average or high normal readiness ranges performed in the manner expected. However, nearly one-third of the pupils who scored in the low normal and low readiness ranges scored 1.6 or above on the MAT. Since the objective for the first grade did not include pupils who scored in low normal and low readiness ranges, these pupils performed better than was expected.

B. The average performance of the pupils in grades two, three, and five did not meet the requirements of the objective agreed upon by the faculty at the beginning of the year. Recognizing the fact that the MUST project pupils were tested in with the regular grade, their scores were separated from the regular pupils. Even so, the objective was not met. That is, the pupils in these grades did not gain one month for each month of instrucion. They gained about two-thirds of the expected gain.

C. Behavioral objectives to determine MUST project pupils' performance on the MAT were not set; consequently, the data on the MUST pupils were presented only for information to show that even through they made some gain, their scores caused the over-all scores for the grades, in some instances, to be lower.

D. In a longitudinal study of pupil progress, which covered FY 71 and FY 72, the reading performance of pupils who took both pretest and posttest during the two-year period (S_4 population) remained rather constant. There were no extremes. The third grade pupil performance was better in FY 72 than in FY 71. The present second and fifth grades performance for FY 72 was approximately one month less than FY 71; hence, over a two-year period, the pupils gained approximtely two-thirds of the expected gain.

E. The S_4 population of the third grade realized the objective of one month gain for each month of instruction. Consequently, those pupils who were not in the S_4 population made the mean score for the total third grade lower.

F. According to the prediction of performance, based on the formula to deterine the gain rate of effectiveness, only pupils in grade three performed as predicted in arithmetic.

G. Pupils in grades two, three, four, and five, which were the grades included in the study of the level of acceptability, performed at a level in reading which was approximately three-fifths of the national norms.

H. Pupils in general had an acceptable level of self-esteem in peer relationships, scholastic endeavors, family interaction, and general view of themselves, which were all the factors measured with the self-appraisal instrument.

I. Pupils had a positive attitude toward behavior of the teachers, relationships with peer groups, school subjects, the school as a center, and general orientation to school, which were all the factors measured by the attitude toward school instrument.

J. The over-all organizational climate of the school was viewed as being open during both fiscal years. The climate became more open during FY 72 than it was in FY 71.

K. The amount of funds spent seemingly did not relate significantly to the achievement of pupils. Basically, the per-pupil cost in compensatory funds was the same in grades two through seven, yet only the second grade performed as predicted.

L. There was no significant correlation between attendance and the reading gain scores of the S_3 groups.

M. The objective to maintain a per cent of attendance equal to the city-wide average was met, or exceeded, in the second and third grades, but was below by two per cent in the first grade.

N. The Career Opportunities Program (COP) participants worked with all grades; consequently, comparisons could not be made within the school. Hill School will be used as a COP school in the over-all project evaluation and will be compared to other similar schools without COP teams.

RECOMMENDATIONS

Based upon the findings and conclusions of this study, it is recommended that:

A. The faculty continue to seek promising innovative educational practices which will contribute toward improved pupil performance in all grades.

B. Specific plans be made to utilize services provided through compensatory funds so that maximum results will be obtained from these services.

C. Pupils who have been identified as EMR be excluded from the regular standardized testing program.

The findings of this study concerning pupil progress imply the following question: "How can compensatory funds and services be used so they will result in significantly improved pupil performance?" This question is particularly pertinent to Hill School, a school that has several factors which are positive in nature and which should promote more "normal" pupil performance than that being obtained.

For example, over the last few years several compensatory services -- Title I, Teacher Corps, Career Opportunities Program (COP), MUST -- have been operating at an apparently high-quality level. Then, another very positive condition is the openness and supportiveness of the organizational, administrative, and instructional climate. These factors would all seem conducive to improved pupil performance. Consequently, the faculty is encouraged to consider carefully pupil accountability.

The faculty is to be commended for its efforts, interest, and concern in seeking to provide the learning experiences which are conducive to improved pupil performance. The faculty is encouraged in its efforts to facilitate pupil performance in a manner that will raise the rate of effectiveness to such a level as to raise the level of acceptability.

APPENDIX

MURRAY'S NEED-PRESS SCALES --
DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence
2. Achievement: striving for success through personal effort
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion
4. Affiliation-rejection: friendliness versus unfriendliness
5. Aggression-blame avoidance: hostility versus disorganization

6. Change-sameness: flexibility versus routine
7. Conjunctivity-disjunctivity: planfulness versus organization
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal
9. Deference-restiveness: respect for authority versus rebelliousness
10. Dominance-tolerance: ascendance versus forbearance

11. Ego Achievement: striving for power through social action
12. Emotionality-placidity: expressiveness versus restraint
13. Energy-passivity: effort versus inertia
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness
15. Fantasied achievement: daydreams of extraordinary public recognition

16. Harm avoidance--risk-taking: fearfulness versus thrill seeking
17. Humanities-social sciences: interests in the humanities and the social sciences
18. Impulsiveness-deliberation: impetuosity versus reflection
19. Narcissism: vanity
20. Nuturance-rejection: helping others versus indifference

21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI)
22. Order-disorder: compulsive organization of details versus carelessness
23. Play-work. pleasure-seeking versus purposefulness
24. Practicalness-impracticalness: interest in pratical activities versus indifference
25. Reflectiveness: introspective contemplation

26. Science: interest in the natural sciences
27. Sensuality-puritanism: interest in sensory and aesthetic experiences
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests
29. Supplication-autonomy: dependency versus self-reliance
30. Understanding: intellectuality

ORGANIZATIONAL CLIMATE INDEX FACTORS

A. Development Press

1. Intellectual climate -- This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, reflectiveness, understanding, fantasied achievement, exhibitionism, and change. A school that scores high on this factor is one in which there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

2. Achievement standards -- This is the factor reflecting press for achievement. Schools high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness -- This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is high interest in practical activity and a desire for helping others.

4. Supportiveness -- This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, conjunctivity, supplication, blame avoidance, harm avoidance, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness -- The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, conjunctivity, deference, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

In addition to the reflection of factors (1) and (2) under Development Press, Control Press involves:

Impulse control -- This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on work instead of play; prudishness versus sexuality; aggression versus blame avoidance; impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. A school that scores high on this factor is one in which the teachers feel there is a high degree of purposefulness, heterosexual interests, hostility, impetuosity, expressiveness, and restriving after failure.

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[PUPIL PERFORMANCE IN THE ELEMENTARY SCHOOLS OF ATLANTA, GA.]

RESEARCH AND DEVELOPMENT REPORT

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TABLE OF CONTENTS

	Page
RATIONALE	1
PUPIL NEEDS	2
PROGRAM GOALS	3
BEHAVIORAL OBJECTIVES	3
CRITICAL VARIABLES	4
SUPPORTIVE PROJECTS	
Title I Program	5
Lead Teacher	6
Social Worker	6
Educational Aides	7
Limited Funds	7
Comprehensive Instructional Program (CIP)	7
MANAGEMENT AND CONTROL	
School Organization	8
Inservice Training	9
Organizational Climate	9
Definitions of Scales From Which Development Press And Control Press Are Derived in The Organizational Climate Index	10
Development Press	
Intellectual Climate	11
Achievement Standards	11
Practicalness	12
Supportiveness	12
Orderliness	12
Control Press	12
PROCESS	
Instructional	13
Parental Involvement	14

TABLE OF CONTENTS (Cont'd)

	Page
Attendance -- Attitude	15
Self-Concept	15
EVALUATION INSTRUMENTS	15
FINDINGS	16
Evaluation of Behavioral Objectives	17
Analysis of Test Performance: 1971-72	25
Longitudinal View of Reading Performance: 1970-71 and 1971-72	30
COST ANALYSIS	34
CONCLUSIONS	37
RECOMMENDATIONS	38

LIST OF TABLES

Number		Page
1	Mean Gains in Raw Scores Between Pretest And Posttest on Vocabulary And Reading Comprehension Subtests, Scott, Foresman Inventory-Survey Tests, Primary And Intermediate Levels (Upper Level Pupils -- N = 118).	18
2	Frequency of Gain Scores on The Mathematics Subtests on The Metropolitan Achievement Tests . .	20
3	The Percentages of Favorable Responses on The Self-Appraisal Inventory And The School Sentiment Index For Upper Elementary Title I Pupils, Spring, 1972.	21
4	Cumulative Per Cent of Attendance by Grade Level . .	23
5	School Profile of Standard Factor Scores on The Organizational Climate Index.	24
6	Frequency of Gains on The Reading Subtests of The Metropolitan Achievement Tests	26
7	Grade Equivalent Ending Levels For The Reading Subtests of The Metropolitan Achievement Tests. . .	27
8	Effectiveness And Acceptability of Pupil Performance on The Reading Subtest of The Metropolitan Achievement Tests	29
9	Comparison of Metropolitan Achievement Tests Reading Scores of Pupils Taking Pretest or Posttest Only With Reading Scores of Pupils Taking Both Pretest And Posttest.	31
10	Correlation Between Metropolitan Achievement Tests Pretest/Posttest Scores And Attendance. . . .	32
11	Longitudinal Comparison of Mean Reading Pretest/ Posttest Scores And Gains on The Metropolitan Achievement Tests, 1970-72	33

LIST OF TABLES (Cont'd)

Number		Page
12	Analysis of Per Pupil Expenditures of General Funds And Compensatory Funds According to Reading Gains on The Metropolitan Achievement Tests. . . .	35

I. RATIONALE

I. P. Reynolds Elementary School is a small school, located in the southeastern section of the city, serving approximately 267 pupils who resided in the area known to the community as Reynolds Town during the 1971-72 school year. Income levels in the community were low, often supplemented by public assistance funds. Employment was usually limited to service occupations. The majority of the pupils resided in the two apartment complexes in the area or in rented single family dwellings, housing two br more family units at one time. Many of the Reynolds' pupils were from single parent families, predominantly matriarchal. Many grandmothers had assumed the responsibility of rearing their grandchildren.

School mobility figures were surprisingly low for a population within this income bracket. In fact, the School Mobility Index has been consistently under 20 per cent for the last three years. These figures may be somewhat deceiving, though, since many moves had taken place during the summer as indicated by school enrollment figures, showing a decline of 150 pupils during the past four years, from September, 1968, to September, 1971. Enrollment figures remained relatively constant during the fall of September, 1971, due to the fact that Reynolds School retained its class of seventh-year pupils who would normally have been assigned to nearby Hubert Elementary School. Although both the school and neighborhood populations are steadily declining, it is encouraging to note that often this mobility trend has been upward, as some families are moving to Decatur and buying homes there.

According to a school survey, an estimated 75 per cent of the pupils enrolled in Reynolds School were members of families whose total annual income was $2,000 or less. These figures represented a large decline in annual income when compared with figures for previous years. Since a large number of the pupils had shown a need for compensatory services, Reynolds School was classified as a Title I school and, thus, was qualified to receive supplementary funds and additional personnel through Title I grant allocations. In addition, instructional assistance was available through the local Comprehensive Instructional Program (CIP) to assist the faculty in implementing its program.

Reynolds Elementary School has continuously worked toward maintaining positive relationships with both the parents and community, attempting to promote the overall philosophy of the school. Parents were always welcome visitors and were encouraged to actively participate in school functions and to assist in classroom activities if at all possible.

The nongraded instructional program at Reynolds School, incorporating the team teaching concept, was developed specifically to attempt to meet the identified needs of the pupil population. The faculty had remained relatively stable throughout the past several years and the teachers had actively participated in concentrated training in the area of reading. It was in this area that pupils had displayed the greatest need. In the upper level, which included fourth through seventh year pupils, many of these pupils were reading two to three or more grade levels below their actual grade placement. In fact, there were twelve children in the upper level who were diagnosed at the beginning of the year as nonreaders. Intensive individualized help was given to these children. Consequently, the school chose to examine the long range effectiveness of its reading program in addition to its concentrated efforts during the current year, focusing on the improvement of vocabulary and comprehension skills of the upper level pupils. Therefore, this report will include an evaluation of the progress made toward achieving the specific objectives set forth for the upper level pupils as well as a summary overview of the pupil progress made on all grade levels, including achievement data, gain rate of effectiveness, and the cost expended to achieve these gains.

II. PUPIL NEEDS

The following needs of the pupils at Reynolds Elementary School were identified by the faculty through diagnostic instruments, observation, and informal conversations with parents.

A. To develop improved self-confidence.

B. To develop or improve basic reading skills, particularly those relating to reading comprehension.

C. To experience success in school activities.

D. To improve attendance habits, developing a positive attitude toward school.

E. To keep parents aware of their children's school progress and how they can assist their child.

III. PROGRAM GOALS

In order to meet these needs, the following general goals were set forth to guide the program throughout the year:

A. To provide an opportunity for every child to learn according to his own growth pattern.

B. To enable every child to experience success and satisfaction in his learning activities.

C. To provide the opportunity for each child to assume responsibility for his own learning through knowledge of his instructional objectives.

D. To provide an individualized, nongraded program which will meet each child's needs and enable him to progress according to his abilities.

E. To help each child think creatively.

F. To provide activities specifically geared toward the development of reading comprehension skills in all content areas.

G. To provide continuous opportunities for parents to become aware of the instructional program in the school so they will be able to reinforce their children's learning experiences at home.

H. To analyze the attendance patterns of those children who exhibit chronic absenteeism, diagnose the causes, and work toward alleviating them.

IV. BEHAVIORAL OBJECTIVES

The following objectives were set forth by the staff to guide the Reynolds School program activities for those pupils in their fourth through seventh year and to serve as a basis for evaluating pupil progress and program implementation.

A. The fourth, fifth, sixth, and seventh year pupils will show a statistically significant gain in their raw scores on the vocabulary and comprehension skills subtests between the pretest and posttest scores on the Scott, Foresman Inventory-Survey Test, Primary Level and Intermediate Level.

B. Of the fifth, sixth, and seventh year pupils 75 per cent will show at least five months of gain in mathematics between pretest and posttest scores on the Metropolitan Achievement Tests (MAT), an instructional period of six months.

C. Based on longitudinal study, 32 of the upper level pupils who have been identified as the most educationally deprived children, will show a statistically significant annual improvement in self-concept as measured by the Self-Appraisal Inventory, Intermediate Level, and in their attitude toward school as measured by the School Sentiment Index, Intermediate Level.

D. During the course of the school year, there will be at least one personal conference held between each child's teacher and parent or guardian, concerning the child's school progress.

E. The pupils will continue to maintain a cumulative attendance average of at least 91 per cent for the current year.

F. In keeping with the philosophy of the school, it will have an open organizational climate, as measured by the Organizational Climate Index.

V. CRITICAL VARIABLES

The following critical variables were identified as areas in which definite changes were proposed:

A. Reading Achievement (upper level)

1. Vocabulary skills
2. Comprehension skills.

B. Mathematical Achievement (upper level)

Problem solving skills.

C. Parental Involvement

Parent-teacher conferences.

D. Attendance.

E. Self-concept

1. In general
2. Family
3. Peers
4. Scholastic.

F. Attitude Toward School

1. Teachers
2. Peers
3. Social structure and climate
4. School subjects.

G. School Climate.

VI. SUPPORTIVE PROJECTS

There were several supportive projects within I. P. Reynolds School that provided supplementary personnel, services, or funds above and beyond those supplied through the regular school program. The supportive projects were related directly to pupil needs, complementing the regular school program. They had specified program-wide objectives which of necessity became the school's objectives when the programs were implemented in the school. A brief description of the supportive projects as they were implemented at Reynolds School follows:

A. Title I Program

Title I provided the following personnel and compensatory services: (1) a lead teacher, (2) a part-time social worker, (3) two educational aides, and (4) limited funds for materials and supplies.

1. Lead Teacher

The lead teacher position at Reynolds School was new to the school this year and was not filled until October, 1971. This role was initially defined by the teachers themselves who individually indicated on a checklist the specific areas within their classrooms with which they felt they needed assistance. The lead teacher coordinated the instructional program in the school, serving as an overall resource person to teachers, pupils, and parents. More specifically her role included the following duties:

a. Diagnosed individual and group needs or problems, making recommendations to teachers concerning appropriate methods and materials.

b. Shared with teachers new ideas and innovations from current research and literature.

c. Assisted in promoting parental involvement activities in the school and counseling teachers concerning parent-teacher conferences.

d. Demonstrated use of audio-visual equipment in the school, encouraging its utilization, particularly in the area of individualization.

e. Served as test coordinator, assisting teachers in the standardization within the school of the administration of the tests and in the interpretation of the test results.

f. Coordinated the activities of the volunteer tutors, providing prescriptions for the children's diagnosed weaknesses and appropriate materials for effective tutoring.

g. Assisted the librarian in ordering resource materials for the school.

h. Assisted the principal in providing inservice training for both teachers and educational aides at staff meetings.

2. Social Worker

Although the social worker was only assigned on a part-time basis, he remained on call daily to the school in case of an emergency. He generally allocated one day

a week to the Reynolds School neighborhood, primarily directing his efforts toward assisting pupils with school adjustment problems and school attendance problems that had been referred to him by the teachers. He maintained close contact with community resource agencies, referring families to the appropriate agency whenever necessary.

3. Educational Aides

Two educational aides were assigned to work with teachers as members of the instructional team. One aide completed the kindergarten team, assisting the teacher with the daily program, planning and working with her closely. In the afternoons, she was assigned to assist the first grade team. The other aide worked daily with both primary and upper level teachers so that each teacher was assisted by an aide for one hour or more each week. The aides instructed small groups of children under the direction of the teacher and also helped prepare materials and keep records. The floating aide spent at least two hours daily tutoring those pupils identified as the most educationally deprived pupils and also assisted with all physical education classes.

4. Limited Funds

Supplementary reading materials, including games and workbooks for all grade levels, were ordered from the Scott, Foresman Company early in the school year and received by the school promptly.

B. The Comprehensive Instructional Program (CIP)

The Comprehensive Instructional Program was a locally funded program, focusing on diagnostic teaching in the areas of reading and mathematics. Pupils in the first, second, and third grades were diagnostically evaluated in the area of reading on their own level of proficiency three times during the year to aid individual teachers in prescriptive teaching. Pupils in the fourth, fifth, and sixth grades were diagnostically assessed in the area of mathematics in the Fall. The overall goal of this program in all schools was one month's gain in reading scores in grades one through three for each month of instruction and one month's gain in mathematics scores for each month of instruction in grades five and six.

An Area V CIP resource teacher worked primarily with primary level teachers one day a week assisting them with their reading program and also providing both the primary and upper level teachers with enrichment materials in mathematics. Inservice workshops were provided to the faculty throughout the year by the resource teacher. During the summer two teachers from Reynolds School attended the CIP inservice workshop in reading, although only one of these teachers returned to teach at Reynolds School.

Limited funds were available to the school to be used for supplementary instructional supplies. With these funds, mathematics materials were purchased for the upper level pupils and then a workshop was held by the CIP resource teacher to demonstrate a variety of ways to utilize these materials.

VII. MANAGEMENT AND CONTROL

School Organization

The organizational structure at Reynolds School was somewhat different, but well suited to the needs of the pupil population. The school implemented a nongraded program within self-contained classrooms. Pupils were divided into two levels according to the number of years they had been in school. The primary level included all pupils who had been in school less than four years; the upper level included all pupils who were experiencing their fourth through seventh year in school. Five classroom teachers were assigned to the primary level, which included kindergarten. The remaining five teachers were assigned to the upper level.

It took almost an entire year of experimentation with the nongraded program, extensive teacher training and planning, and numerous discussions and meetings with parents in order to lay the groundwork for full-scale implementation of the program in the upper level this year. Pupils were assigned across grade levels to homerooms according to their reading levels and remained in these groups for all language arts subjects. They were then regrouped across grade levels according to their ability in mathematics. Each upper level teacher assumed responsiblity for teaching one reading group and one mathematics group daily. Social studies, science, music, and physical education were treated as large group activities and team teaching was implemented in these situations.

The kindergarten day at Reynolds School was extended so that the class was in session from 8:30 a.m. to 1:00 p.m. First year pupils were taught in a team teaching situation, although a few second year pupils were included in this group. The second and third year pupils were also nongraded, assigned to homerooms according to reading levels and reassigned to different groups for mathematics. The academic program was supplemented by part-time teachers in chorus, in art, and in band, and a part-time speech therapist.

No real staffing problems were experienced in this school except that the lead teacher was not assigned until October, 1971. One primary level teacher was a first year teacher and two others were new to the school as were two upper level teachers. One upper level teacher was absent excessively during the final quarter of the school year but the substitute teacher replacement was quite effective with these pupils.

In order to insure as much instructional continuity as possible, each teacher kept a folder on file in the office to be used by a supply teacher if necessary. This folder included an up-to-date schedule of class activities, name tags for the pupils, an active roll, groupings used in the various subject areas, and a list of "helpful" children.

Inservice Training

An active teacher inservice training program was stressed at Reynolds School. Teachers were requested to identify problem areas and appropriate consultants then were contacted to assist the faculty. Workshops were held in the areas of mathematics problem solving, games which could be made by teachers for enrichment activities, behavior modification, learning disabilities, reading, mathematics, the CIP testing program and utilization of CIP data feedback, activities to help improve weaknesses in reading skill areas, demonstration of audio-visual equipment in the school, and role playing teacher-parent conferences. One teacher was involved in the Summer CIP reading workshop.

Organizational Climate

Organizational climate has been used to describe the "personality" of an environment. A study of the organizational climate of a school may provide insight into possible characteristics of the environment operating within that school's organizational structure.

In April, 1972, a randomly selected sample of teachers in Title I elementary schools were requested to complete, anonymously, the Organizational Climate Index (OCI), an instrument developed by George

Stern of Syracuse University. The principal at Reynolds School willingly volunteered to be included in this study in order to obtain data relative to the school climate as perceived by the teachers. A total of 26 Title I elementary schools in Atlanta were included in the study.

The OCI is comprised of 300 true or false items which, when compiled, provide data from the respondents on the 30 scales defined below. Analysis of these data produces six OCI factors which are called first-order factors. The initial five first-order factors, including intellectual climate, achievement standards, practicalness, supportiveness, and orderliness, describe a second-order factor called development press, which is the capacity of the organizational environment to support, satisfy, or reward self-actualizing behavior. The remaining first-order factor, impulse control, describes another second-order factor called control press, which refers to those characteristics of the environment which inhibit or restrict personal expressiveness.

DEFINITIONS OF SCALES FROM WHICH DEVELOPMENT PRESS AND CONTROL PRESS ARE DERIVED IN THE ORGANIZATIONAL CLIMATE INDEX

1. Abasement-assurance: self-deprecation versus self-confidence.
2. Achievement: striving for success through personal effort.
3. Adaptability-defensiveness: acceptance of criticism versus resistance to suggestion.
4. Affiliation-rejection: friendliness versus unfriendliness.
5. Aggression-blame avoidance: hostility versus disorganization.

6. Change-sameness: flexibility versus routine.
7. Conjunctivity-disjunctivity: planfulness versus organization.
8. Counteraction-inferiority avoidance: restriving after failure versus withdrawal.
9. Deference-restiveness: respect for authority versus rebelliousness.
10. Dominance-tolerance: ascendance versus forbearance.

11. Ego achievement: striving for power through social action.
12. Emotionality-placidity: effort versus restraint.
13. Energy-passivity: effort versus inertia.
14. Exhibitionism-inferiority avoidance: attention-seeking versus shyness.
15. Fantasied achievement: daydreams of extraordinary public recognition.

16. Harm avoidance--risk-taking: fearfulness versus thrill seeking.
17. Humanities-social sciences: interests in the humanities and the social sciences.
18. Impulsiveness-deliberation: impetuosity versus reflection.
19. Narcissism: vanity.
20. Nurturance-rejection: helping others versus indifference.

21. Objectivity-projectivity: detachment versus superstition (AI) or suspicion (EI).
22. Order-disorder: compulsive organization of details versus carelessness.
23. Play-Work: pleasure-seeking versus purposefulness.
24. Practicalness-impracticalness: interest in practical activities versus indifference.

25. Reflectiveness: introspective contemplation.
26. Science: interest in the natural sciences.
27. Sensuality-puritanism: interest in sensory and aesthetic experiences.
28. Sexuality-prudishness: heterosexual interests versus inhibitions of heterosexual interests.
29. Supplication-autonomy: dependency versus self-reliance.
30. Understanding: intellectuality.

The following are the six first-order factors and their definitions:

A. Development Press

1. Intellectual climate -- This factor describes a concern with intellectual activity, social action, and personal effectiveness. It is based on the scales for humanities, social science, science, exhibitionism, and change. A school that scores high on this factor is one in which there is a high degree of intellectuality, heterosexual interests, flexibility, and attention seeking.

2. Achievement standards -- This is the factor reflecting press for achievement. Schools scoring high on this factor stress hard work, perseverance, and a total day-by-day commitment to institutional purposes. It is defined by counteraction, energy, achievement, emotionality, and ego achievement.

3. Practicalness -- This factor suggests an environmental dimension of practicality tempered with friendliness. It is defined by practicalness and nurturance. A school that scores high on this factor is one in which the teachers feel there is a high interest in practical activity and a desire for helping others.

4. Supportiveness -- This factor deals with aspects of the organizational environment that respect the integrity of the teacher as a person, but the implication is that dependency needs must be supported rather than personal autonomy emphasized. It might be considered a measure of democratic paternalism. The scales defining it are assurance, tolerance, objectivity, affiliation, blame avoidance, conjunctivity, supplication, harm avoidance, and nurturance. A school that scores high on this factor is one in which the teachers feel a high degree of self-confidence, friendliness, and planfulness.

5. Orderliness -- The components of this factor are concerned with the press for organizational structure, procedure, orderliness, and a respect for authority. Conformity to community pressures and an effort to maintain a proper institutional image probably are also concomitants of a high score on this factor. It is based on order, narcissism, adaptability, conjunctivity, deference, and harm avoidance. A school that scores high on this factor is one in which the teachers feel there is a compulsive organization of details, acceptance of criticism, respect for authority, vanity, and planfulness.

B. Control Press

In addition to the reflection of factors 1 and 2 under "development press," control press involved:

Impulse Control -- This factor implies a high level of constraint and organizational restrictiveness. There is little opportunity for personal expression or for any form of impulsive behavior. It is based on the following scales: work versus play; prudishness versus sexuality; aggression versus blame avoidance; and impulsiveness versus deliberation; emotionality versus placidity; and exhibitionism versus inferiority avoidance. Before conversion, a low score would indicate an open climate on this factor. A school that scores high on this factor, after score conversion, is one in which the teachers feel there is a high degree of purposefulness,

heterosexual interests, hostility as opposed to disorganization, impetuosity as opposed to reflection, expressiveness, and restriving after failure.

The OCI was not administered as a test or a criterion measure in the judgemental or evaluative sense; rather, its intent was to provide feedback on the school climate as a basis for analysis and discussion by the school faculty and to provide baseline data for a longitudinal study, examining fluctuations, and determining if there is any relationship between school climate and pupils' achievement.

VIII. PROCESS

In addition to the supporting services and personnel of the projects previously outlined, examples of the types of activities and methods of intervention that were implemented at Reynolds to meet pupil needs and achieve the school goals and behavioral objectives included the following:

A. Instructional

The nongraded team teaching plan itself was devised to implement a more effective instructional program. Teachers worked together during preplanning week to initially group the children on the basis of their past knowledge of the child and the child's previous academic record. The pupils were then diagnostically evaluated in reading late in September, 1971, using the Scott, Foresman Inventory-Survey Test. Those children who were identified as the most educationally deprived pupils in each classroom were chosen to obtain extra assistance through volunteer adult tutors and tutoring by the educational aides, with assistance from the lead teacher and teacher, who prepared individual prescriptions for the pupils and supplied the necessary materials for instruction. Six volunteers from the Baptist-Stewart Center each worked with one child for an hour once a week. The aides tutored small groups of children in the classroom. In addition, two student teachers were assigned to an Upper Level classroom containing many of the pupils experiencing the greatest difficulties in reading, including the nonreaders.

Individualization in instruction was stressed as much as possible. Each child had a cumulative folder containing his diagnosed strong and weak skills, appropriate prescriptions, dated samples of his work and individual continuing behavioral objectives of which each child was made aware. Over two hours daily were devoted to instruction in language arts. The Scott, Foresman Open Highway series was used as a basal series for the Upper Level pupils, with the Ginn series as co-basal. The use of audio-visual equipment was encouraged whenever appropriate.

A "Read-In" week, emphasizing the fun and pleasure of reading, was held during the year. A set time of day was devoted entirely to reading. Everyone in the school was encouraged to read materials of their own choice during this time.

B. Parental Involvement

All teachers were encouraged to hold at least one individual parent-teacher conference with each parent. During these conferences the parents were shown their child's folder. Every Wednesday, teachers remained after school for one hour to be available for these conferences but parents were continuously urged to come and talk with teachers whenever it was most convenient for them. A conference was automatically requested if the child was not performing up to his expected capacity. Many of the teachers visited in the homes of their pupils after school hours.

Suggestions were sent home to the parents throughout the year, sharing ideas for enrichment or reinforcement experiences at home. Parents were asked to indicate how they felt they might help the school and its program through a checklist of volunteer services. They were invited to visit the school and to volunteer their services whenever possible. Early in May, 1972, a "Parent-Volunteer Appreciation Banquet" was held in the school honoring all the parents and volunteers who had extended their services throughout the year. These services included assisting with an Easter egg hunt for the children, a talent show, refreshments for class parties, accompanying pupils on field trips and trips to the dentist, sewing costumes, and relieving teachers for inservice workshops whenever necessary.

Parent-Teacher Association (PTA) meetings generally included a program by the children or one highlighting their activities in order to create maximum interest on the part of the parents. Homeroom mothers or teachers telephoned parents prior to each meeting and personnally invited them to these meetings. After the PTA meetings, teachers concentrated on being available to chat informally with parents.

C. Attendance -- Attitude

It was the belief of the faculty that a program geared to meet the individual needs of a child would also help develop within the child a positive attitude toward school, resulting in a decline in the absenteeism that was due to a negative attitude toward school. Teachers compiled daily summary sheets listing the number of children on their roll, the number present and absent, including the names of absentees, new pupils and withdrawals. The absenteeism information was then charted daily in the main office so that family as well as individual attendance patterns could be seen at a glance. Teachers attempted to make some contact with the family whenever there was an absence in order to identify the reason for the absence. Chronic absenteeism problems as well as economic problems were referred to the social worker, who also conducted an intensive session with teachers discussing ways to combat attendance problems. Teachers and the entire staff were continuously aware of daily attendance fluctuations and chronic attendance problems throughout the year.

D. Self-Concept

Pupils were encouraged to help each other within the classroom. Also, in addition to working with those children referred for speech problems, the speech therapist worked with those children identified as the most educationally deprived in small group therapy sessions once a week. These small group sessions were oriented toward both language and self-concept improvement.

IX. EVALUATION INSTRUMENTS

The following tests and instruments were used to evaluate the progress of the pupils at Reynolds Elementary School:

A. The Basecheck, a locally devised checklist of readiness skills, was administered to the kindergarten children late in the Spring, 1972.

B. The Scott, Foresman Inventory-Survey Test is an informal reading test accompanying the Scott, Foresman Basal Series, designed to measure a pupil's general level of reading achievement in a group and to determine individual strengths and weaknesses. Dependent upon the pupil's previous academic performance, all Upper Level pupils were administered either the Primary Level or the Intermediate Level test, Form B, in both September, 1971, and May, 1972.

C. The Metropolitan Achievement Tests (MAT) were adminstered to the second, third, fifth, sixth, and seventh year pupils in October, 1971, and to pupils in their first through seventh year in April, 1972.

D. The Self-Appraisal Inventory (SAI), an instrument designed to assess the pupil's self-concept along the following four dimensions: (1) general, (2) family, (3) peer, and (4) scholastic, was administered in April, 1972, to the fourth, fifth, and sixth year pupils who were identified by the faculty as the most educationally deprived pupils in their classrooms.

E. The School Sentiment Index (SSI), an instrument designed to assess the pupil's attitude toward school in general and toward several dimensions of school (teachers, school subjects, school structure and climate, and peer relationships), was administered in April, 1972, to the fourth, fifth, and sixth year pupils identified as the most educationally deprived pupils.

X. FINDINGS

Evaluation of the program at I. P. Reynolds School for the 1971-72 school year included analysis of the progress made toward the specific objectives, as well as examination of the long-range effectiveness of the reading program for all grade levels.

Evaluation of Behavioral Objectives

A. The fourth, fifth, sixth, and seventh year pupils will show a statistically significant gain in their raw scores on the vocabulary and comprehension skills subtests between the pretest and posttest scores on the Scott, Foresman Inventory-Survey Test, Primary Level and Intermediate Level.

Based on the pupils' need to develop basic reading skills, this objective was expected to be met through a program of individualized instruction with activities specifically geared toward the development of reading comprehension. Mean gain scores on the subtests of the Scott, Foresman Inventory-Survey Test were subjected to a t test of dependent measures to determine if they were significantly greater than zero.

According to Table 1, statistically significant raw score gains in the areas of vocabulary and comprehension on the Scott, Foresman Inventory-Survey Tests were evident in some instances. The greatest growth by far was exhibited by the nonreaders, gaining an average of 7 points and 5 points respectively on the vocabulary and comprehension subtests, to be statistically significant at the .01 level.

Of the Upper Level pupils who took the primary level tests, the fourth and fifth-year pupils made statistically significant mean gains on both the vocabulary and reading subtests. The sixth-year pupils made statistically significant mean gains only on the vocabulary subtests. Mean gains made by the seventh-year pupils were not significant at the .05 level on either subtest.

As a group, the Upper Level pupils who took the intermediate level battery made no mean gains statistically significant at the .05 level on the vocabulary subtest. In fact, only the fourth-year pupils exhibited any mean gains at all on this subtest. In contrast, the mean gains made on the intermediate level reading comprehension subtest by these same Upper Level pupils were statistically significat at the .05 level, and statistically significant for the fifth, sixth, and seventh year pupils at the .01 level.

Generally, pupils performing on the primary level made more significant gains in reading and comprehension than pupils taking the intermediate level tests. Both groups made better gains in comprehension than in vocabulary, an unusual relationship; usually gains in comprehension are less than those in vocabulary. However, this reversal in the trend

TABLE 1

MEAN GAINS IN RAW SCORES BETWEEN PRETEST AND POSTTEST ON VOCABULARY AND READING COMPREHENSION SUBTESTS, SCOTT, FORESMAN INVENTORY-SURVEY TESTS, PRIMARY AND INTERMEDIATE LEVELS (UPPER LEVEL PUPILS -- N = 118)

		Primary Level (Max. Score-25)				Intermediate Level (Max. Score-17)			
Vocabulary	Grade	Number of Pupils	Mean Pretest Score	Mean Gain (In Points)	t ratio	Number of Pupils	Mean Pretest Score	Mean Gain (In Points)	t ratio
	4	9	16	2	3.795**	14	9	1	1.438
	5	24	18	2	2.423*	10	10	0	0.361
	6	13	17	4	2.462*	13	10	0	1.011
	7	8	19	2	2.109	16	11	0	0.728
	Nonreaders	11	9	7	6.281**				
Reading Comprehension			(Max. Score-25)				(Max. Score-43)		
	4	9	14	3	6.403**	14	23	4	2.200*
	5	24	16	2	4.517**	10	28	4	4.353**
	6	13	17	2	1.631	13	26	4	3.162**
	7	8	18	1	1.247	16	28	5	5.922**
	Nonreaders	11	7	5	3.738**				

*Significant at the .05 level.
**Significant at the .01 level.

is very significant because the emphasis of the reading program at Reynolds School was on comprehension rather than on specific, isolated skills. The lead teacher further pointed out that the vocabulary test was not geared to the type of common vocabulary needed by the pupils.

B. Of the fifth, sixth, and seventh year pupils at Reynolds Elementary School, 75 per cent will show at least five months of gain in mathematics between pretest and posttest scores on the Metropolitan Achievement Tests (MAT), an instructional period of six months.

Although mathematics instruction was not identified among the needs of the pupils, emphasis was placed on mathematics within the instructional program. Pupils were grouped according to achievement level in mathematics for individualized instruction similar to reading.

Table 2 shows that the number of pupils who achieved a five month gain in mathematics was not sufficient to meet the 75 per cent objective for any grade level. Two subtests of the MAT, including math computations and math problem solving, were used to determine if the objective had been met. Notation should be made that 94 per cent of those pupils who met the specified objective, also met the standardized expected gain of six months. Furthermore, 65 per cent of those who gained five months or more actually gained one year or more. Mean gain scores on each of the math subtests reflected the performance specified in the objective (5 months) for the entire group in the sixth and seventh grades. In the fifth grade, the mean gain in math computations was seven months while in the problem solving subtest the mean gain was only four months.

Scores on the computation subtest of the MAT were usually higher than scores on the problem-solving subtest. The necessity for reading skills in the problem-solving subtest very likely contributed to lower achievement in that area.

Further observation of individual gain scores in the mathematics subtests revealed that in every grade level there were a number of pupils who made zero or negative gains. This number was usually at least half the number of pupils who were gaining one year or more. A situation that allows for such abnormally high gains while a substantial number of other pupils gained nothing or declined in score should merit attention and concern.

TABLE 2

FREQUENCY OF GAIN SCORES ON THE MATHEMATICS SUBTESTS
ON THE METROPOLITAN ACHIEVEMENT TESTS

	N	Gain in Months ≤ 0 No.	≤ 0 Per Cent	1 - 4 No.	1 - 4 Per Cent	≥ 5 No.	≥ 5 Per Cent	Mean Gain in months
Fifth Grade								
Math Computations	35	7	20	11	31	17	49	7
Math Problem Solving	35	13	37	7	20	15	43	4
Sixth Grade								
Math Computations	29	7	24	5	17	17	59	8
Math Problem Solving	28	7	25	10	36	11	39	6
Seventh Grade								
Math Computations	25	7	28	3	12	15	60	7
Math Problem Solving	25	9	36	2	8	14	56	5

C. Based on a longitudinal study, 32 of the upper level pupils who have been identified as the most educationally deprived children, will show a statistically significant annual improvement in self-concept, as measured by the Self-Appraisal Inventory, Intermediate Level, and in their attitude toward school, as measured by the School Sentiment Index, Intermediate Level.

Pupils participating in this testing composed the upper level pupil population of the Title I program. As the most educationally deprived, according to test results, their self-concepts were conceivably poorer than pupils who experienced more success in school activities. Receiving more individual attention through Title I staff and working at their individual levels of proficiency, pupils in this program should have developed a more positive attitude toward themselves and toward school.

The administration of these tests can only serve as baseline data for a longitudinal view that will be completed by testing in the Spring of 1973. Results listed in Table 3 can only indicate the pupils' attitudes in Spring, 1972.

TABLE 3

THE PERCENTAGES OF FAVORABLE RESPONSES ON THE SELF-APPRAISAL INVENTORY AND THE SCHOOL SENTIMENT INDEX FOR UPPER ELEMENTARY TITLE I PUPILS SPRING, 1972

	Self-Appraisal Inventory				
	Peer	Family	School	General	Overall
Upper Elementary Title I Pupils N=29	59.7	75.5	62.1	67.8	66.3

	School Sentiment Index					
	Peer	School Climate	School Subject	Teacher	General	Total
N=29	65.2	81.0	67.5	66.3	78.2	69.0

According to Table 3, as a group the pupils exhibited particularly positive feelings toward their families and toward the overall school climate. These are encouraging reactions which might not have been expected from this particular group. It is also evident that in the areas of both attitude and self-concept, reactions concerning their peer groups are least positive, but not significantly different.

D. During the course of the school year, there will be at least one personal conference held between each child's teacher and a parent or guardian, concerning the child's school progress.

Based on the identified need for parental awareness of children's school progress and ways to assist the child at home, the stated goal of Reynolds Elementary School was "to provide continuous opportunities for parents to become aware of the instructional program in the school so they will be able to reinforce their children's learning experiences at home."

According to records submitted by 10 teachers at Reynolds, at least one personal conference was held by them during the year with 211 parents or guardians of the 242 Reynolds pupils included in these classrooms. One classroom was not included due to a lack of records from a teacher who had experienced an extended illness during the year. These conferences took place in the child's home, in the school, or over the telephone. After each conference, a short report concerning the conference was written by the teacher. Of the ten teachers reporting, two of the teachers were able to contact and talk with all of the parents of their pupils at least once, thus meeting the objective as stated. Of the remaining teachers, six lacked contact with only one or two pupils' parents, one had contacted all but five parents and in only one instance had a teacher contacted less than half of the parents of pupils in that particular classroom.

E. Reynolds' pupils will continue to maintain a cumulative attendance average of at least 91 per cent for the current year.

The need for improved attendance and the development of a positive attitude toward school were seen as important areas of concern for the 1971-72 school year. It was hoped that improved attitude toward school would allow the percentage of attendance to at least equal that for the previous year despite a more mobile population.

TABLE 4

CUMULATIVE PER CENT OF ATTENDANCE BY GRADE LEVEL

Grade	Per Cent of Attendance 1970-71	1971-72
Kindergarten (a.m.)	90	87
Kindergarten (p.m.)	--	80
First	85	88
Second	90	90
Third	92	92
Fourth	93	89
Fifth	93	94
Sixth	94	96
Seventh	85	96
Total School	91	91

According to Table 4, pupil attendance was very good among upper level pupils, with the exception of those pupils in their fourth year. The third, fifth, sixth, and seventh-year pupils exceeded attendance expectations and an improvement in attendance over the previous year was exhibited by first, fifth, sixth, and seventh-year pupils. Attendance was poorest in the lower grades, particularly among kindergarten and first-year pupils. Objective E was met as stated in terms of overall school attendance.

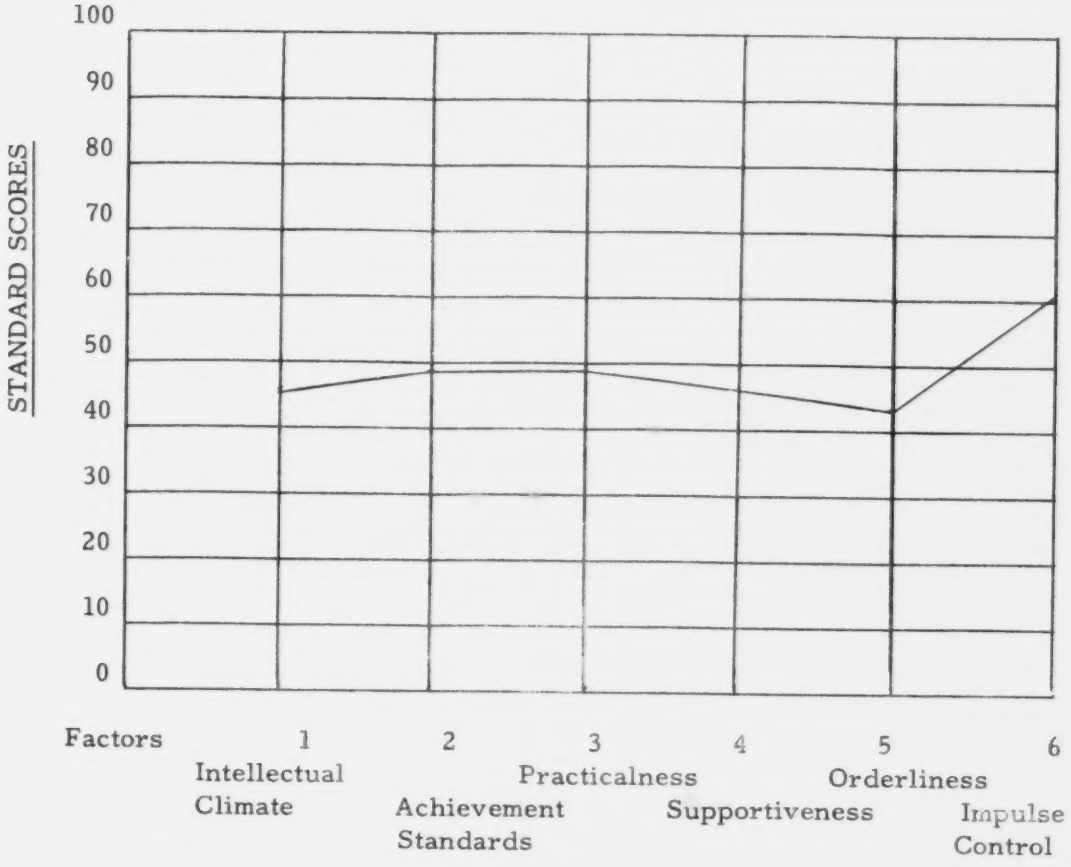
F. In keeping with the philosophy of the school, Reynolds will have an open organizational climate, as measured by the Organizational Climate Index (OCI).

The Organizational Climate Index is described in detail in the Management and Control Section. Reynolds' school climate profile is presented in Table 5. The OCI scores were converted to standard scores; the mean score is 50 and the standard deviation is 10. After conversion, the higher the score on all six factors, the more open the cliamte. As indicated by the table, it appeared that the teachers at Reynolds perceived the school climate as relatively open. All five factors which describe the development press, including intellectual climate, achievement standards, practicalness, supportiveness, and orderliness, were only slightly below

the mean, well within one standard deviation of the mean, indicating that according to the teachers at Reynolds, the organizational structure of their school in general supports, satisfies, or rewards self-actualizing behavior. The data also indicated that Reynolds scored very high in impulse control, implying that the teachers were very free to be self-expressive.

TABLE 5

SCHOOL PROFILE OF STANDARD FACTOR SCORES ON THE ORGANIZATIONAL CLIMATE INDEX



Analysis of Test Performance: 1971-72

Since the major emphasis of the instructional program at I. P. Reynolds School was on reading, the results of the system-wide administration of the Metropolitan Achievement Tests were examined for reading subtest scores. Tests were administered in October and April of the 1971-72 school year. Standardization, based on one month of gain for each month of instruction plus one month of gain for the three months of summer, required a mean gain of six months during this instructional period. The ranges of gain scores in Table 6 were determined around this standardization.

As shown by the table, mean gains made in word knowledge were generally more appropriate to the instructional period than mean gains in reading. Three of the five grades listed scored at least six months better on the posttest than on the pretest in word knowledge. Only the seventh grade gained at least the standardized six months in reading comprehension. The performance of the sixth grade on both subtests is poor and should be a cause for concern.

The mean ending level in the reading subtests of the Metropolitan Achievement Tests reflects where the pupils stood in terms of national norms rather than how much they learned during the instructional period. Table 7 reports the mean grade equivalents by grade for word knowledge and reading comprehension. Frequencies of posttest scores within specified ranges give a clear picture of the distribution of achievement levels within each grade. (See Table 7, page 27)

On both subtests, mean ending levels gradually fell further behind the national norm (the seventh month of each grade level) as the year in school increased. Hence, the second grade scored seven months behind and one year behind grade level of 2.7 on the word knowledge and reading subtests respectively, and the seventh grade scored two years and three months behind the norm in word knowledge and three years and one month behind the norm in reading. This trend is further illustrated by the increased percentage of pupils in the upper grades who scored more than two years behind the national norm. For example, on the reading subtest only twelve per cent of the third grade scored more than two years behind grade level while 88 per cent of the seventh grade was more than two years below the norm. One factor contributing to this trend may be the difference in scoring possibilities of various levels of the test. The lowest possible score of a third grade pupil was 1.0 or 2.7 years behind the norm of 3.7; whereas, the lowest possible score of a seventh grade pupil was 3.0 or 4.7 years behind grade level. However, the fact remains that standardized reading scores are exceptionally low, especially in the upper grades. Therefore, further explanation must be sought.

TABLE 6

FREQUENCY OF GAINS ON THE READING SUBTESTS
OF THE METROPOLITAN ACHIEVEMENT TESTS

Subtest	Grade	Gain ≤ 0 Mos. No.	≤ 0 Mos. Per Cent	1-3 Mos. No.	1-3 Mos. Per Cent	4-5 Mos. No.	4-5 Mos. Per Cent	≥ 6 Mos. No.	≥ 6 Mos. Per Cent	Mean Gain in Months
Word Knowledge	2	4	19	5	24	3	14	9	42	4
	3	7	28	5	20	6	24	7	28	6
	5	11	31	4	11	3	8	18	50	7
	6	9	32	9	32	4	14	6	21	2
	7	6	24	3	12	2	8	14	56	8
Reading	2	11	55	4	20	0	0	5	25	3
	3	7	28	5	20	3	12	10	40	4
	5	20	56	4	11	0	0	12	33	3
	6	15	52	4	14	3	10	7	24	1
	7	7	28	4	16	0	0	14	56	7

TABLE 7

GRADE EQUIVALENT ENDING LEVELS FOR THE READING SUBTESTS
OF THE METROPOLITAN ACHIEVEMENT TESTS

Subtest	Grade	More than 2 yrs. behind		13 mos. to 2 yrs. behind		1 mo. to 1 yr. behind		On or above grade level		Mean Ending Level
		No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	
Word Knowledge	2	-	-	5	24	14	67	2	9	2.0
	3	4	16	11	44	6	24	4	16	2.8
	4	7	50	2	14	3	21	2	14	3.4
	5	12	33	16	45	4	11	4	11	4.5
	6	19	69	4	14	2	6	3	11	4.3
	7	16	64	2	8	4	16	3	12	5.4
Reading	2	-	-	15	75	2	10	3	15	1.7
	3	3	12	11	44	6	24	5	20	2.5
	4	2	14	6	43	4	29	2	14	3.7
	5	12	33	14	39	7	20	3	8	4.2
	6	24	83	4	14	1	3	0	0	3.9
	7	22	88	0	0	2	8	1	4	4.6

The observation of poorer performance at higher grade levels is not unique to this school, but is commonly found among underachieving, low socio-economic children. Gains made by Reynolds' pupils were generally typical of those made by pupils at similar schools. Introduction of both a new basal series and a common reading series for the upper elementary grades may have contributed to some poorer gains but, hopefully, the continuity it will provide from grade to grade will increase gains in the future.

A specific problem which may have contributed to poor achievement by upper elementary pupils involved the constant absence of one of the teachers on the team. Pupils taking reading and arithmetic instruction from this teacher were very frequently taught by supply teachers who were often unavoidably called at the last moment. While test scores shown here did not noticeably reflect the resulting inconsistency of instruction, both the principal and the lead teacher felt that it had harmed the program.

Further analysis of posttest and gain scores was done by the Research and Development Division in terms of predicted gains and national norms. Through the use of a regression equation, the factors of pupil attendance, pupil mobility, socio-economic status, pupil-teacher ratio, per cent of pupils passing, and standardized pretest scores, predictions of posttest mean scores and resulting gains were made for the reading comprehension subtest of the Metropolitan Achievement Tests. The predicted gains were then divided by the actual gains for a gain rate of effectiveness. The actual gains quoted in Table 8 may differ from those reading gains listed in other areas of this report where only the scores of pupils with both pretest and posttest were considered. In the effective/acceptable study, all pupils' scores made up the source for pretest and posttest. Indices of acceptability were derived for each grade by dividing the actual mean posttest score by the national norm for that grade, thereby yielding the percentage of the national norm that had been achieved.

The effectiveness of the pupils at I. P. Reynolds School varied greatly from grade to grade. Three grades achieved gains equal to or greater than what had been predicted while the other three grades fell drastically below their predictions. Generally, pupils of the lower grades were more effective than pupils in the upper grades. The average rate of effectiveness for pupils of all grades was 77 but the range varied from zero to 175.

Indices of acceptability based on national norms were somewhat more consistent between grades. However, notation should be made that equal indices for higher and lower grades actually result in the higher grades being further behind the expected grade level. For example, while the second and seventh grades had indices of acceptability of 52 and 53 respectively

TABLE 8

EFFECTIVENESS AND ACCEPTABILITY OF PUPIL PERFORMANCE ON THE READING SUBTEST OF THE METROPOLITAN ACHIEVEMENT TESTS

Grade	Actual		Acceptable	Predicted	Gain		Gain Rate of Effectiveness		Index of Acceptability	
	Pretest	Posttest	Posttest	Posttest	Actual	Predicted	1971-72	1970-71	1971-72	1970-71
2	1.4	1.4	2.7	1.7	0.0	0.3	0	50	52	67
3	1.8	2.3	3.7	2.2	0.5	0.4	125	160	62	81
4	3.1	3.5	4.7	3.5	0.4	0.4	100	75	74	68
5	3.6	3.7	5.7	4.1	0.1	0.5	20	50	65	65
6	3.4	3.6	6.7	3.9	0.2	0.5	40	133	54	64
7	3.4	4.1	7.7	3.8	0.7	0.4	175	-	53	-
					Average		77	94	60	69

for 1971-72, the second grade scored one year and three months behind but the seventh grade was three years and six months behind the norm. Therefore, the average index of acceptability, 60, must be regarded as an unweighted indication of where the school stands in relation to national norms.

The effects of mobility and attendance on reading performance were tested for statistical significance. In order to determine the effects of mobility, the pretest and posttest Metropolitan Achievement Tests (MAT) scores of the permanent pupil population were compared to those of the mobile population. For purposes of this test the permanent population consisted of those pupils who took both the pretest and posttest. The mobile population was comprised of pupils who took the pretest or the posttest but not both. The assumption was made that pupils who took only one of the tests were not enrolled during the administration of the other test. A t-test of means showed no statistical difference between the pretest scores of the permanent and mobile populations. Likewise no significant difference was found between the posttest scores of the same groups. From this evidence it is concluded that mobility has no measurable effect on the reading performance of pupils at Reynolds School as determined by standardized scores on the MAT. T-ratios by grade level for both pretest and posttest are available in Table 9.

Similarly, there was no statistically significant correlation between the per cent of attendance and reading scores on the MAT. Table 10 shows that the highest correlation of gain in reading and attendance occurred in grade two but the correlation appears to gradually decrease as grade level increases. (See Table 10, page 32)

Longitudinal View of Reading Performance: 1970-71 and 1971-72

Reading scores on the Metropolitan Achievement Tests (MAT) were available for comparison for the permanent pupil population of 1970-71 and 1971-72. A sub-group of these two populations, pupils who were tested in both years, was listed separately. Table 11 shows pretest and posttest means for all three groups.

When comparing the scores of the two-year population with those of the 1971-72 population of which they are a part, little difference was found on either the pretest or posttest. A notable exception was found on the posttest mean of the fourth grade where the two-year pupils scored four months higher than the entire stable population of 1971-72.

Some obvious differences in scores were found between the pupils of 1970-71 and 1971-72. However, differences were erratic, reflecting no noticeable trends. Second grades scored similarly in both years.

TABLE 9

COMPARISON OF METROPOLITAN ACHIEVEMENT TESTS READING SCORES OF PUPILS TAKING PRETEST OR POSTTEST ONLY WITH READING SCORES OF PUPILS TAKING BOTH PRETEST AND POSTTEST

	Pretest Only			Pretest/Posttest			t	Posttest Only			Pretest/Posttest			t
Grade	No.	Mean	S.D.	No.	Mean	S.D.	Score	No.	Mean	S.D.	No.	Mean	S.D.	Score
2	10	1.5	0.19	20	1.5	0.27	-0.363	2	2.1	0.99	20	1.7	0.74	0.647
3	5	2.2	0.70	25	2.1	0.59	0.295	2	3.3	0.50	25	2.5	0.85	1.287
4	-	-	-		-	-	-	14	3.7	1.39	-	-	-	-
5	4	3.3	0.24	36	3.9	0.93	-1.278	3	3.7	0.35	36	4.2	1.32	-0.750
6	6	3.8	0.80	29	3.8	0.93	-0.030	2	4.8	0.50	29	3.9	0.91	1.364
7	2	3.9	0.78	25	3.9	1.15	-9.012	1	5.3	00	25	4.6	1.50	0

TABLE 10

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS PRETEST/POSTTEST SCORES AND ATTENDANCE

Grade	Coefficient of Correlation	
	D.F.	Gain
2	18	0.2612
3	23	0.1814
4	--	--
5	34	0.1883
6	27	0.0123
7	23	0.0047

Third graders of 1971-72 achieved six months less gain than the third grade of the previous year and scored eight months further behind on the posttest. The fourth and fifth grades of the two years showed similar posttest scores but pupils of 1971-72 made less gain during the year. The sixth grade of 1971-72 was obviously behind its counterpart of 1970-71 although relatively the same gains were made.

One disconcerting observation should be made concerning the sixth and seventh grade pupils. Their pretest scores in 1971-72 were two and four months respectively behind the posttest scores of 1970-71 when they were in the fifth and sixth grades. The appropriateness of the tests and testing procedures should be examined as possible causes of the decrease in performance.

Changes in the rates of effectiveness and indices of acceptability are observable for the two-year period in Table 8. Both averaged less in 1971-72 than in 1970-71.

Although the average gain rate of effectiveness decreased by only 17 points, changes by grade level were much more significant. Negative changes ranged from 30 points in the fifth grade to 93 points in the sixth grade. Only the fourth grade increased in effectiveness. When pursuing groups of pupils through the two years, the second and sixth grades of 1970-71 were the only pupils to improve their effectiveness in 1971-72 as third and seventh grades respectively.

TABLE 11

LONGITUDINAL COMPARISON OF MEAN READING PRETEST/POSTTEST SCORES AND GAINS ON THE METROPOLITAN ACHIEVEMENT TESTS
1970-72

	Pupils Tested in 1970-71*				Pupils Tested in 1971-72*				Pupils Tested in 1970-71 and 1971-72*			
Grade	Number of Pupils	Mean Scores Pretest	Mean Scores Posttest	Gain in Months	Number of Pupils	Mean Scores Pretest	Mean Scores Posttest	Gain in Months	Number of Pupils	Mean Scores Pretest	Mean Scores Posttest	Gain in Months
2	34	1.6	1.8	2	21	1.5	1.7	2	-	-	-	-
3	32	2.3	3.3	10	25	2.1	2.5	4	21	2.1	2.4	3
4	36	3.1	3.7	6	14	-	3.7	-	9	-	4.1	-
5	29	3.6	4.1	5	36	3.9	4.2	3	29	4.0	4.4	4
6	37	4.1	4.3	2	29	3.8	3.9	1	23	3.9	3.9	0
7	-	-	-	-	25	3.9	4.6	7	21	3.9	4.7	8

*Matched Scores.

The nine point decrease in the index of acceptability from 69 to 60, was attributable to all grades but four and five where indices remained constant or slightly improved. Indices of other grades declined by at least ten points. No groups of 1970-71 improved performance in 1971-72 as members of the next higher grade.

The decrease in both the gain rate of effectiveness and the index of acceptability indicates the existence of problems in the reading program and/or in the derivation of predicted scores. The principal and faculty of I. P. Reynolds Elementary School are working with the Division of Research and Development to determine where the problems lie.

XI. COST ANALYSIS

An attempt has been made to relate gains in reading achievement to the amount expended in general and compensatory funds. This relation took the form of a projection of the amount of funds necessary to achieve acceptable gains, i.e., one month of gain per month of instruction. In order to determine the projection, the yearly per pupil expenditures were divided by the rate of reading gains, yielding the per pupil expenditure required to achieve 100 per cent gain. Expenditures were obtained from the General Funds Financial Report and the Trust and Agency Report for June 30, 1972. Distribution of these funds by grade level was made uniformly for general funds, but compensatory funds were weighted in relation to actual utilization of resources as indicated by the school staff. Expenditures by grade level were then divided by the average daily attendance (ADA) for per pupil expenditures in that grade.

Projections of necessary funds for acceptable gains were possible for only grades two, three, five, six, and seven since only they received comparable pretest and posttest. Both general and compensatory funds were used as a basis for the projections with further categorization into salary and non-salary items. Expenditures were relatively the same for all grade levels in both general and compensatory funds. The fifth, sixth, and seventh grades received additional general funds from the Comprehensive Instructional Program (CIP), making their per pupil expenditure approximately $5.00 higher than those of grades two and three. The per pupil expenditure of compensatory funds was the same for all grade levels.

Projected expenditures for 100 per cent gain varied greatly for each grade level. Since per pupil expenditures were approximately the same for all levels, the difference in projection was due to the great difference

TABLE 12

ANALYSIS OF PER PUPIL EXPENDITURES OF GENERAL FUNDS AND COMPENSATORY FUNDS ACCORDING TO READING GAINS ON THE METROPOLITAN ACHIEVEMENT TESTS

	Grade					
	Second	Third	Fifth	Sixth	Seventh	Average
Average Daily Attendance (ADA)	30	33	39	32	27	32
Per Pupil Cost						
A. General Funds						
1. Regular						
a. Salary	$ 622.83	$ 622.83	$ 622.83	$ 622.83	$622.83	$ 622.83
b. Non-Salary	61.37	61.37	61.37	61.37	61.37	61.37
c. Total	$ 684.20	$ 684.20	$ 684.20	$ 684.20	$684.20	$ 684.20
2. Comprehensive Instructional Program (CIP)						
a. Non-Salary	-	-	$ 4.75	$ 4.75	$ 4.75	$ 4.75
3. Total General Funds						
a. Salary	$ 622.83	$ 622.83	$ 622.83	$ 622.83	$622.83	$ 622.83
b. Non-Salary	61.37	61.37	66.12	66.12	66.12	64.26
c. Total	$ 684.20	$ 684.20	$ 688.95	$ 688.95	$688.95	$ 687.09
B. Compensatory Funds						
1. Emergency School Assistance Program (ESAP)						
a. Salary	$ 0.73	$ 0.73	$ 0.73	$ 0.73	$ 0.73	$ 0.73
b. Non-Salary	0.46	0.46	0.46	0.46	0.46	0.46
c. Total	$ 1.19	$ 1.19	$ 1.19	$ 1.19	$ 1.19	$ 1.19
2. Title I						
a. Salary						
1. Lead Teacher	$ 34.03	$ 34.03	$ 34.03	$ 34.03	$ 34.03	$ 34.03
2. Teacher Aides	33.35	33.35	33.35	33.35	33.35	33.35
3. Total Salary	$ 67.38	$ 67.38	$ 67.38	$ 67.38	$ 67.38	$ 67.38

	Grade					
	Second	Third	Fifth	Sixth	Seventh	Average
b. Non-Salary	0.98	0.98	0.98	0.98	0.98	0.98
c. Total Title I	$ 68.36	$ 68.36	$ 68.36	$ 68.36	$ 68.36	$ 68.36
3. Total Compensatory Funds						
a. Salary	$ 68.11	$ 68.11	$ 68.11	$ 68.11	$ 68.11	$ 68.11
b. Non-Salary	1.44	1.44	1.44	1.44	1.44	1.44
c. Total	$ 69.55	$ 69.55	$ 69.55	$ 69.55	$ 69.55	$ 69.55
C. Total Per Pupil Cost						
1. General Funds	$ 684.20	$ 684.20	$ 688.95	$ 688.95	$688.95	$ 688.95
2. Compensatory Funds	69.55	69.55	69.55	69.55	69.55	69.55
3. Total Expenditures	$ 753.75	$ 753.75	$ 758.50	$ 758.50	$758.50	$ 758.50
D. Rate of Reading Gain	60	69	52	16	112	60
E. Projected Cost For One-Unit Gain						
1. General Funds	$1,140.33	$ 991.59	$1,324.90	$4,305.94	$615.13	$1,145.15
2. Compensatory Funds	115.92	100.80	$ 133.75	434.69	62.10	115.92
3. Total	$1,256.25	$1,092.39	$1,458.65	$4,740.63	$677.23	$1,261.07
F. Gain Rate of Effectiveness	0	125	20	40	175	68
G. Expenditures Per ADA of Compensatory Funds For Each Unit of Effectiveness	-	$ 0.56	$ 3.48	$ 1.74	$ 0.40	$ 1.55

in rate of reading gain. The mean rate of reading gain was 60 but the range extended from 16 to 112. In grades five, six, and seven where CIP funds were concentrated, the rate of reading gain showed no consistency or improvement over grades without CIP funds.

Further analysis of instructional cost related per pupil expenditure of compensatory funds to the gain rate of effectiveness (see Findings: Analysis of Test Performance: 1971-72). This calculation determined the per pupil cost in compensatory funds for each unit of effectiveness. Compensatory funds, equally distributed for each grade level, had no effect on the rate of effectiveness. Cost per unit of effectiveness varied as the rate of effectiveness varied and ranged from 40 cents to $3.48 per pupil.

XII. CONCLUSIONS

Conclusions made herein are based on data reported in previous sections and information received from the principal and the faculty of I. P. Reynolds Elementary School.

A. Pupils in grades four through seven generally showed statistically significant gains on the reading comprehension subtest of the Scott, Foresman Inventory Survey Test.

B. Pupils in grades four through seven who worked at the primary level of the Scott, Foresman Reading Series made statistically significant gains in word knowledge; pupils working on the intermediate level did not.

C. On the standardized Metropolitan Achievement Tests, pupils in grades four through seven generally performed better in word knowledge than in reading.

D. Pupils in grades two through seven in 1971-72 achieved further below their predicted gains than pupils of 1970-71.

E. Pupils in grades two through seven fell further behind the national norms in 1971-72 than in 1970-71.

F. Mean posttest scores in reading fell further behind the national norm as grade level increased.

G. Mobility and attendance had no statistically significant effect on pupils' performance on standardized reading tests.

H. Approximately 50 per cent of the pupils, instead of the projected 75 per cent, in grades five, six, and seven performed as expected on the mathematics subtests of the Metropolitan Achievement Tests (MAT).

I. Pupils in grades five, six, and seven generally performed better on math computations than on math problem solving on the Metropolitan Achievement Tests (MAT).

J. The percentage of attendance for 1971-72 equalled that of 1970-71 despite a rising mobility index.

K. Teachers made a concerted effort to inform parents of their children's progress in school.

L. Teachers were relatively satisfied with the organization of their school and felt free to express their feelings regarding it.

M. Expenditure of funds seemed to have no effect on reading performance.

XIII. RECOMMENDATIONS

The following recommendations are made in consideration of the stated goals of Reynolds Elementary School.

A. The faculty should continue its efforts to individualize instruction in reading and mathematics.

B. Involvement of parents in the school program should be extended to further individualize reading instruction.

C. Consideration should be given to integrating mathematics instruction with reading in order to improve problem-solving skills.

D. Faculty members should continue to intensify their efforts in determining the cause of the wide variance in performance of pupils of the various grades.

The principal and faculty of I. P. Reynolds Elementary School have made a concerted effort to individualize basic reading and mathematics instruction for pupils in their school. This effort has required the unselfishly given time and cooperation of the entire staff. Their willingness and dedication to their pupils deserve appreciation and commendation.

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RESEARCH AND DEVELOPMENT REPORT

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TABLE OF CONTENTS

	Page
INTRODUCTION	1
RATIONALE	1
PUPIL NEEDS	2
GOALS OF THE PROGRAM	3
BEHAVIORAL OBJECTIVES	3
CRITICAL VARIABLES	4
SUPPORTIVE PROJECTS	
Title I Program	5
Lead Teacher	5
Social Worker	6
Educational Aides	7
Limited Funds	7
Comprehensive Instructional Program (CIP)	8
MANAGEMENT AND CONTROL	
School Organization	8
Inservice Training	10
PROCESS	
Instructional (Reading program in the first and second grades)	10
Instructional (Experimental math program in the sixth grade)	11
Attendance	12
EVALUATION INSTRUMENTS	13
FINDINGS	
Evaluation of Behavioral Objectives	14
Analysis of Reading Performance: 1971-1972	21
Longitudinal View of Reading Performance: 1970-71 and 1971-72	26
CONCLUSIONS	29
RECOMMENDATIONS	31

LIST OF TABLES

NUMBER		PAGE
1	Pupils Scoring at Least Eighty Per Cent on Comprehensive Instructional Program Diagnostic Reading Tests	16
2	Grade Equivalent Ending Levels for the Subtests of the Metropolitan Achievement Tests	17
3	Frequencies of Gain Scores on the Reading Subtest of the Metropolitan Achievement Tests	19
4	Description of Scores on the SRA Diagnosis: An Instructional Aid Inventory and the Computation Subtest of the Metropolitan Achievement Tests for a Sixth Grade Experimental Class	20
5	Cumulative Percentages of Attendance By Grade Level for Robinson and Boyd Elementary Schools	22
6	Performance of Robinson's Pupils on the Basecheck	23
7	Pretest Reading Scores for Pupils Assigned to Robinson and Pupils Assigned to Boyd in April, 1972	25
8	Frequencies of Posttest Scores on the Reading Subtest of the Metropolitan Achievement Tests April, 1972	25
9	Correlation Between Metropolitan Achievement Tests Reading Gain Scores and Attendance	27
10	Comparison of Mean Scores and Frequencies on the Reading Subtest of the Metropolitan Achievement Tests for 1970-71 and 1971-72	27
11	Effectiveness and Acceptability of Pupil Performance on the Reading Subtest of the Metropolitan Achievement Tests	29

I. INTRODUCTION

Upon close examination of the progress made by the pupils at Robinson Elementary School during the previous school year (1970-71) as reflected through test scores on both standardized achievement and developmental tests, the faculty expressed a need for redesigning its instructional program to more specifically satisfy the identified needs of individual pupils. The main thrust of the instructional program was to be directed toward developing and improving the reading skills of the pupils in the primary grades. Thus, the 1971-72 Robinson Elementary School Prospectus, outlining the school's program during the year, was developed by combining the goals and behavioral objectives, as stated by individual teachers for their specific classrooms and pupils, into grade level expectations, primarily focusing on the effectiveness of the reading program as it was implemented in the first three grades. A secondary focal point to be examined carefully was a new experimental approach toward individualizing mathematics, a program which was implemented in one of the sixth-grade classrooms.

After Robinson's program was well in progress, plans were implemented to transfer approximately 200 pupils and 9 teachers from Robinson Elementary School to nearby Boyd Elementary School, a recently completed open cluster school officially opened in March, 1972. An additional 300 pupils from Grove Park Elementary School completed Boyd's enrollment.

In spite of some drastic changes in instructional methods and classroom composition, as well as different teachers working with new pupils in many situations, it was decided by both the school administration and the area office to continue with plans to evaluate the progress of all of the Robinson pupils, including those pupils who remained at Robinson and those pupils who were transferred to Boyd. Evaluation would proceed in terms of the initially stated goals and behavioral objectives set forth for the primary grades as well as a summary overview of the pupils who were initially enrolled in Robinson in the fall, including achievement data and pupil gains.

II. RATIONALE

The Ralph C. Robinson Elementary School is located on the northeast side of the Perry Homes Community. The majority of the 447 pupils enrolled in Robinson in the kindergarten through the seventh grade lived in the Perry Homes federal housing project, the second largest low-income public housing facility in the city, comprised of 1,140 units and approximately 7,000 residents. Most of these family units were female dominated.

The income level was very low, usually supplemented by public assistance funds. The home environment, characterized by crowded housing conditions and little privacy, lacked many of the resources that are necessary to provide a good background for successful learning experiences. In addition, according to mobility figures from the last three years, the school population had been relatively transient. Almost one-quarter of the pupils in the school had either entered or left the school during these academic years. All of these factors tend to handicap a child in his learning endeavors.

Approximately 58 per cent of the Robinson pupils were members of families whose yearly income was $2,000 or less. These children also displayed an obvious need for improvement in both their academic performance and their self-image. Consequently, Robinson was classified as a Title I School and received instructional materials, supplies, and personnel through Title I grant allocations to be used to strengthen the existing instructional program. These services were designed to provide compensatory assistance to those children who had been specifically diagnosed as the most educationally deficient pupils in the school. Additional instructional supplies, special diagnostic testing materials, and the services of resource personnel were also available to the teachers through the locally funded Comprehensive Instructional Program (CIP). Thus, all services and resources which were made available through Title I, CIP and the Area III resource staff were coordinated with their main emphasis directed toward enabling Robinson pupils to become more positive and effective individuals.

III. PUPIL NEEDS

The combined efforts of all supportive services were directed toward satisfying the following specific pupil needs which were identified by the faculty:

A. To develop basic reading skills for successful cognitive learning experiences.

B. To assume an increasing responsibility for their own learning, exhibiting a more positive attitude toward the responsibilities involved in learning.

C. To develop communicative skills which reflect an expanding vocabulary.

D. To recognize and value reading as a tool for creativity and exploration.

E. To develop a greater appreciation for reading as a leisure time activity.

F. To assume a more positive self-image through successful learning experiences.

G. To improve their school attendance.

IV. GOALS OF THE PROGRAM

The following general goals were set forth in order to satisfy the identified needs of the pupils, forming the basis for the instructional program:

A. To provide an instructional program in reading which concentrates on specific basic reading skills, including the understanding of similarities and differences among sounds and among visual symbols and the application of sounds to written symbols.

B. To develop an instructional program such that pupils will be exposed to a variety of techniques for reading new words independently and for understanding their meanings.

C. To design an instructional program to assess pupils' progress through continuous diagnostic procedures.

D. To design an instructional program which will prescribe to individual needs, using the Metropolitan Achievement Tests, the Comprehensive Instructional Program diagnostic tests, and the Scott, Foresman developmental tests as diagnostic instruments.

E. To involve both parents and pupils together in a combined effort to improve pupil attendance, concentrating on the development of a more positive attitude toward school.

V. BEHAVIORAL OBJECTIVES

The following objectives were formulated to guide the program activities at Robinson and to evaluate the extent to which the goals of the program had been accomplished in terms of expected pupil progress.

A. After 8 months of instruction, given a list of letters, pictures, and words, 80 per cent of the pupils in the first and second grades will identify upper and lower case letters, identify basic sight words, and correctly match pictures with their corresponding nouns, with 80 per cent accuracy, as measured by their successful completion of subtests B_1 through B_4, upon administration of the third Comprehensive Instructional Program (CIP) diagnostic reading test.

B. After 8 months of instruction, 75 per cent of the second grade pupils will demonstrate their ability to use sound-symbol relationships to analyze new words with 80 per cent accuracy, as measured by their successful completion of subtests C_1 through C_3, upon administration of the third CIP test.

C. Of the pupils enrolled in the second through the seventh grades, 45 per cent will increase their reading scores at a rate of one month's gain for each month of instruction between the pretest and posttest, as measured by the Metropolitan Achievement Tests (MAT).

D. Those 30 pupils enrolled in the sixth grade class using the Science Research Associates (SRA) Programmed Individualized Instruction Program will show statistically significant gains in basic computational skills as measured by the difference between the pretest and posttest scores on the SRA Diagnosis: An Instructional Aid Inventory.

E. Pupils will increase last year's (1970-71) attendance average of 88 per cent by at least 1 per cent for the current year (1971-72).

VI. CRITICAL VARIABLES

The following critical variables were identified as areas in which the school proposed to make changes:

A. Reading Achievement (First grade)
   1. Sight vocabulary
   2. Alphabet skills
   3. Phonetical skills

B. Reading Achievement (Second through seventh grade)
   1. Word attack skills
   2. Comprehension skills

C. Mathematical Achievement (Sixth Grade experimental program)

Basic computational skills

D. Attendance

VII. SUPPORTIVE PROJECTS

The Title I Program and the Comprehensive Instructional Program were the primary supportive programs that were implemented at Robinson-Boyd, providing supplementary personnel, services, and/or funds above and beyond those supplied through the regular school program. These supportive programs were directly related to pupil needs, complementing the regular instructional program. They had specified program-wide objectives which of necessity became the school's objectives when the program was implemented in the school. A brief description of the supportive programs as they were implemented at Robinson-Boyd follows:

A. The Title I Program

Title I provided the following personnel and compensatory services: (1) a lead teacher, (2) a part-time social worker, (3) four educational aides, and (4) limited funds for materials and supplies.

1. Lead Teacher -- The overall responsibility of the lead teacher at Robinson-Boyd was to help plan, organize, and guide the total instructional program in the school, with emphasis on reading. More specifically, her role incorporated some of the following duties:

   a. Coordinated the Comprehensive Instructional Program (CIP) activities at Robinson-Boyd and the school-wide testing program, including both developmental and CIP tests.

   b. Served as resource person for teachers, pupils, and parents.

   c. Assisted teachers in diagnosing and prescribing for classes, groups of children, and individual children.

   d. Taught small groups of children and/or individual pupils who needed special help with specific reading skills.

   e. Demonstrated techniques of teaching both in classrooms and to the entire faculty.

f. Assisted teachers and educational aides in selecting and making appropriate games and materials for teaching and reinforcing reading skills.

g. Ordered textbooks and related materials for the instructional program and assisted the librarian in the selection of books and non-printed materials for the entire school.

h. Assisted in the orientation of new teachers by: (1) interpreting the school's policies and procedures as related to instruction, (2) displaying and demonstrating the use of available materials and equipment, and (3) helping with classroom organization and planning.

2. Social Worker -- The social worker was assigned part-time to Robinson, serving the school approximately three days a week. The overall function of this social worker was to serve as liaison between the home, school, and community with major concentration in the area of improving pupil attendance patterns. Additional responsibilities assumed included the following:

a. Handled all referrals from teachers including attendance, economic, health, and behavior problems, either providing direct service to those children and their families or referring them to appropriate community agencies, always assisting the families to follow through with these services.

b. Obtained home background information to assist the school to better understand the child or family whenever appropriate.

c. Cooperated with all local community agencies and worked closely with the public housing social service workers and the welfare caseworkers.

d. Coordinated all health program activities in the school, including the physical examinations for kindergarten children, immunizations, and hearing and vision screenings for all grade levels, working closely with the public health nurse.

e. Served as the school liaison with the Economic Opportunity Atlanta (EOA) Northwest Coordinating Council.

3. Educational Aides -- Four educational aides were assigned initially to work with Robinson teachers as members of the instructional team. One of the aides was assigned to the kindergarten team in the mornings and to the fifth and seventh grades in the afternoons. The other three aides were available to the rest of the grade levels according to a set schedule. In March, 1972, two of these aides were reassigned to the primary cluster at Boyd and two remained at Robinson, reassigned full-time to the first and second grades, respectively. Inservice training in areas such as the use of equipment, enrichment materials, and methods in reinforcement of specific skills was provided to all of the aides by the lead teacher regularly throughout the year.

   One of the educational aides was a Career Opportunities Program (COP) participant, enrolled part-time at Clark College. COP is a training program for selected para-professionals leading toward professional certification. Tuition was provided for the trainees, allowing them to earn up to forty-five quarter hours of college credit during a period of twelve months. The trainees were required to work as members of an instructional team, performing instructional tasks and participating in planning activities. The COP aide was initially assigned to grades one through four at Robinson but was reassigned to a primary cluster at Boyd in March, 1971.

   The activities of all of the aides were coordinated by the lead teacher. Their specific duties at either of the two schools included:

   a. Providing individualized and tutorial help for referred pupils.

   b. Assisting with library and game activities related to the reading program.

   c. Performing duplication services for teachers involved in the reading program.

   d. Assisting in providing supplementary materials and services for classroom activities.

4. Limited funds -- Compensatory reading materials, including Science Research Associates (SRA) Reading Laboratory materials,

were purchased with these funds and used in the fourth grade to supplement the regular reading program. Map and globe materials were ordered for the sixth and seventh grades but did not arrive until the end of the school year.

B. The Comprehensive Instructional Program (CIP)

The Comprehensive Instructional Program was a locally funded program, focusing on diagnostic teaching in the areas of reading and math. Pupils in the first, second, and third grades were diagnostically evaluated in the area of reading on their own level of proficiency three times throughout the year to aid individual teachers in prescriptive teaching. Pupils in the fourth, fifth, and sixth grades were diagnostically assessed in the area of math during the fall.

Each participating school was responsible for implementing its own reading and math program. Individual instructional assistance was available to Robinson teachers upon request through the Area III CIP resource teacher but most of the program activities were channeled through the lead teacher. Inservice training workshops in the areas of math, reading, and use of CIP diagnostic test feedback were provided to the entire faculty by the CIP resource teacher during the year. Five Robinson teachers, including one from the kindergarten, two from the first grade, one from the third grade, and one from the fourth grade, attended the summer CIP inservice course in reading. Two additional teachers from Robinson also participated but did not return to this school in the fall. Limited funds were available to the school to be used for supplementary instructional supplies, including the SRA math kits used in grades five, six, and seven.

The city-wide goal of this program in all schools was one month's gain in reading scores in grades one through three for each month of instruction and one month's gain in math scores for each month of instruction in grades five and six.

VIII. MANAGEMENT AND CONTROL

School Organization

In the Fall of 1971, Robinson's faculty included 16 teachers assigned to the kindergarten level through the seventh grade, a librarian, a special

education teacher, and part-time teachers in the areas of music, physical education and speech. Four educational aides and a lead teacher, funded through the Title I program, provided compensatory instructional assistance. Class enrollment ranged from 24 to 37 pupils in each classroom. The sixth and seventh grades were located in portable classrooms adjacent to the main building and conditions were crowded. Kindergarten sessions were held in the mornings only, from 8:30 a.m. until 12:00 noon.

The faculty was organized into three levels: primary, intermediate and upper. Each of these groups had its own chairman and they often divided into these levels for general planning sessions, group assessment, and writing behavioral objectives. Each teacher also compiled individual plans for her own classroom. The lead teacher then carefully reviewed each plan during an individual conference with the respective teacher, assessing the plan for completeness, feasibility, and meaningfulness.

There were no evident staffing problems at Robinson at the onset of the school year. Two teachers were new to the Robinson faculty this year as well as the principal who was also new to the school. No real absenteeism problems were exhibited by either the educational aides or the teachers.

In March, 1972, Boyd Elementary School was officially opened and designated to operate at one-half capacity until the end of the school year. In order to staff the school, nine Robinson teachers were transferred to Boyd as well as teachers from Grove Park and one teacher from Pitts. All of Robinson's sixth and seventh grade pupils and teachers moved to Boyd as a group. Five additional teachers, one from each grade level excluding kindergarten, were also chosen to transfer to Boyd. Most of these teachers had willingly volunteered to transfer to this new teaching situation.

In all, approximately 200 pupils from Robinson were involved in the transfer to Boyd, either because they were in the sixth and seventh grades which were transferred as entire classes or because they lived in an area designated to be within the school zoning limits of Boyd. The remainder of Boyd's enrollment of about 500 pupils was drawn from the Grove Park Elementary School. Those pupils who remained at Robinson were also indirectly involved, since, as a consequence of the transfer, class composition and enrollment changed drastically in the first through the fifth grades in the beginning of the third school quarter. Nearly one-third of the remaining children were reassigned to new teachers and classes.

The lead teacher at Robinson was designated to assist in opening the new school and helping teachers and pupils to adjust to team teaching and the open cluster concept while still remaining on call to the Robinson teachers at all times. The principal of Robinson was assigned to fulfill

the administrative duties of his position in both schools. Two educational aides were reassigned to the primary cluster at Boyd and two remained at Robinson, reassigned full time to the first and second grades, respectively. Consequently, according to the Area III Office, the two schools were to be considered as one unit, the Robinson--Boyd Elementary School, from March, 1972, until the end of the 1971-72 school year.

Inservice Training

The faculty at Robinson participated in a variety of inservice workshops or meetings throughout the year covering topics such as math, CIP test assessment, reading assessment and competency measures, and formulating behavioral objectives. Workshops in both math and social studies materials were given by Science Research Associates personnel.

After the opening of Boyd, the inservice for teachers reassigned there was continuous and on-going. Constant help and support also came from the Area III resource personnel. One week was devoted to testing, diagnosing, and pupil placement procedures to be implemented in conjunction with the Scott, Foresman Reading Series. The MacMillan Company sponsored a session on social studies. Five micro-teaching sessions were held, covering areas such as behavior modification and success teaching, to lay the ground work for organizing instruction for independent learning.

Individual teachers also participated in various inservice activities, including observation at a language skills laboratory and attendance at a math workshop and a social studies workshop as well as participation in the summer CIP reading course.

IX. PROCESS

In addition to the supporting services and personnel of the projects previously discussed, examples of the types of activities that were implemented at Robinson-Boyd in order to achieve the school goals and behavioral objectives included the following:

Instructional (Reading program in the first and second grades)

With guidance from the lead teacher whenever necessary, each teacher completed an overall plan for her own pupils for the school year, based on her preliminary experiences with the children and supplemented with diagnostic measures, including the reading performance sheets received from the child's previous teacher and

the results of the Newman Analysis Inventory, the Metropolitan Achievement Tests and the Comprehensive Instructional Program diagnostic reading tests. Using these criteria, pupils were homogeneously grouped for instruction. The overall teaching plans for the year included broad goals, both short term and long range behavioral objectives, and various methods proposed to be used in the implementation of their program.

The Open Highways Series was used to accompany the Scott, Foresman Basal Series. Both word attack skills and comprehension skills were the focal points of concentration. The survey and developmental tests that accompanied this series were utilized throughout the year. The skill building exercises in the textbooks were supplemented with games using materials such as the phonics word drill cards, vocabulary cards, the phonics word wheel, the First Talking Alphabet Program, the Story Book Box, tapes, records, viewmasters, individual word picture and letter cards, Starter 101 Concept Cards, experience charts and numerous other supplementary materials, both commercial and teacher-made. The reading series itself and the approach to reading remained constant even after the transfer to Boyd, to insure instructional continuity in spite of all the other changes that were necessitated.

Teachers read aloud to their pupils daily to promote pupil enjoyment of reading just for fun. The children were also exposed to activities such as listening to and reading poetry for expression and thought, dramatization and creative writing. They wrote simple stories to accompany their textbooks and then read these stories aloud. Educational radio and television programs were listened to or viewed whenever appropriate, including Sesame Street, Electric Company, Magic Book,and the speech program.

Interest centers, including a listening station center, a visual center, a games center, and a skills center, were set up for the children so they were able to explore their own interests independently after finishing their group work. The educational aides directly assisted the teachers in the implementation of the reading program, working with small groups of pupils who needed additional help.

Instructional (Experimental math program in the sixth grade)

The Science Research Associates (SRA) math program was implemented in one of the sixth grade classrooms to experiment with one possible means to assist pupils in developing the desire and ability to assume increasing responsibility for their own learning. The program did not start until November, 1971, due to the late arrival of the materials. Initially, each pupil was assessed

using the SRA Diagnosis: An Instructional Aid Inventory. After this general assessment, appropriate math probes were used to pinpoint the child's specific needs. Pupils then received specific materials to master, working at their individual rates of speed at levels of difficulty compatible with their abilities. The materials were kept at a math center in the classroom, available to the pupils throughout the day and supplemented with numerous teacher-made materials. Personal assistance, support, and reinforcement from either the teacher or the educational aide, was always available.

After the pupil had completed an objective, the teacher or the pupil examined and graded the work, indicating if the pupil was ready for a more difficult objective or if he needed to continue to strengthen his mastery of the particular skill in question. These math activities were scheduled according to pupil needs; generally 45 to 75 minutes daily were devoted to math.

After the transfer of the sixth grade to Boyd, this SRA math program was incorporated into the math program for the entire sixth grade because of its individualized approach. According to the teacher, one of the main objectives of the program, self-evaluation of one's own work, was accomplished by the end of the year.

Attendance

Home visits or phone calls were made by the social worker whenever an absent child was referred by a teacher. Chronic attendance cases were automatically followed up when the child's name appeared on the absentee list, even if the child had not been referred. After parents had been contacted twice concerning attendance problems, a letter was sent to the home, expressing the concerns of the school for the child and the magnitude of the attendance problem. Cooperating welfare workers and the Northwest EOA Center workers were also notified of problems with chronic absentees whenever appropriate.

In addition, a community-wide Perry Homes attendance project to include those parents of pupils at Robinson Elementary School, Pitts Elementary School, and Archer High School was spearheaded as one approach to improving pupil attendance. This project combined the resources of social service agencies, family caseworkers, juvenile authorities, school personnel, and parents in a cooperative effort to improve parents' understanding of the importance of good school attendance for their children. Through the support of interested welfare workers, all parents of children who had been identified by the school social worker as chronic absentees were contacted and requested to attend these monthly meetings. Their ideas and assistance were then solicited as a means of establishing two-way communication between the school and the home, while attempting to solve the problem of chronic absenteeism as well as

interrelated problems possibly affecting attendance. Due to the combined support and effort of the community agencies, these meetings were well-attended with lively discussions.

X. EVALUATION INSTRUMENTS

The following tests and instruments were used to evaluate the progress of the Robinson-Boyd pupils:

A. The Basecheck, a locally devised checklist of readiness skills, was administered individually in May, 1972, to all kindergarten pupils who remained at Robinson.

B. The Comprehensive Instructional Program (CIP) diagnostic reading tests were administered to the first three grades three times throughout the year according to each pupil's level of proficiency. The third test was administered in May, 1972.

C. The Metropolitan Achievement Tests (MAT) were administered to the second, third, fifth, sixth, and seventh grades in October, 1971, and to pupils in the first through the seventh grades in April, 1972.

D. The Science Research Associates (SRA) Diagnosis: An Instructional Aid Inventory, an untimed diagnostic math survey test assessing a wide range of mathematical skills from simple addition to complex problem solving, was administered to those pupils enrolled in the sixth grade class using the SRA Programmed Individualized Instruction Program in November, 1971, and in May, 1972.

XI. FINDINGS

Evaluation of the instructional program at Robinson - Boyd Elementary School took three approaches: (1) evaluation of specified behavioral objectives, (2) analysis of reading performance in 1971-72 and (3) a longitudinal view of test results for 1970-71 and 1971-72. Data presented in measurement of the behavioral objectives, at times, was supplemented by additional test results to provide more insight into the progress of the school towards its goals. Reading scores on standardized tests were observed for all grades in an attempt to determine the overall effects of the instructional program. Analysis of scores explored the relationship of gain in reading to mobility and attendance, and the success of pupils in terms of national norms and predicted gains. As an indication of the school's continuing efforts toward specified goals, reading performance

for the two years of 1970 through 1972 was observed through results of standardized tests.

Since pupils of Robinson School were transferred into Boyd Elementary, findings based on behavioral objectives were grouped according to the schools when possible but always included only those pupils who started at Robinson School in the fall of 1971. Analysis of 1971-72 test performance in reading was sometimes possible for only those pupils who remained at Robinson after March, 1972. Likewise, observation of test performance for two years was sometimes limited to pupils who remained at Robinson after the transfer. The exact populations involved in the analyses are noted within the discussion.

Evaluation of Behavioral Objectives

Objective A: After eight months of instruction, given a list of letters, pictures and words, 80 per cent of the pupils in the first and second grades will identify upper and lower case letters, identify basic sight words and correctly match pictures with their corresponding nouns, with 80 per cent accuracy, as measured by their successful completion of subtests B_1 through B_4, upon administration of the third Comprehensive Instructional Program (CIP) diagnostic reading test.

Objective B: After eight months of instruction, 75 per cent of the second grade pupils will demonstrate their ability to use sound - symbol relationships to analyze new words with 80 per cent accuracy, as measured by their successful completion of subtests C_1 through C_3, upon administration of the third CIP test.

These objectives were determined as a measure of the accomplishment of the school's goal of providing an instructional program which emphasized basic reading skills. Concentration was placed on the first and second grades as the place where reading difficulties initially develop.

Discussion of the test results must be prefaced by an accounting of the number of pupils involved. Data was separated according to the school of the pupil in May, 1972. The total number of pupils for which data was available was very small compared to the number of pupils enrolled. This was particularly true for those pupils who transferred to Boyd, and was probably due to the move. Administration of the final CIP test occurred shortly after the transfer and before teachers were able to evaluate the skills of new pupils. As a result, some pupils received inappropriate levels of the test. In some instances, scores were misplaced, again probably due to the confusion generated by the move into new facilities.

The percentages of pupils scoring at least 80 per cent on designated subtests are listed in Table 1 (see page 16). In both the first and second grades, Objective A was met or nearly met for subtests B_1 and B_2 but not for subtests B_3 and B_4. First grade pupils who remained at Robinson performed slightly better than those who transferred to Boyd but not significantly so except on the B_4 subtest. The absence of data on subtests C_1 through C_3 dealing with phonics prevented any conclusive statement about the performance of the second grade on Objective B. Available data seemed to indicate that the objective was not met although pupils at Robinson performed very well on subtest C_1 and pupils at Boyd performed very well on subtest C_3. However those pupils did not represent even one-half of the total population.

The reading performance of first and second grade pupils was more completely observed in the results of the Metropolitan Achievement Tests administered in April, 1972. The frequencies of grade equivalents are recorded for all reading subtests in Table 2 (see page 17) for the first and second grades. At the time of testing, pupils should have been on the seventh month of their respective grade levels.

Pupils in both grades generally performed better in reading comprehension than in the reading skills. This is reflected in the scores of the Reading subtest of the MAT where more pupils scored closer to grade level than they did on the Word Knowledge and Word Analysis subtests. Such a situation is somewhat unusual because generally pupils perform better on the skills subtests than in comprehension.

In both grades, pupils who remained at Robinson scored higher than pupils who were transferred from Robinson to Boyd during the year. The change in classroom situations from self-contained to open classrooms may have contributed to this difference. However, since pupils were assigned to Boyd according to geographic location, future scores for the two schools should be observed for further evidence of differences.

The subtest scores in the first grade, particularly for Robinson's pupils, averaged very close to the national norm of 1.7, but pupils of the second grade averaged almost one year behind the standard score. Word Analysis appeared to be the weakest area in both grades for both schools, registering the lowest mean in each group. Consideration should be given to the improvement of word analysis skills in the first grade as a means to improve general reading performance in the second grade.

Objective C: Of the pupils enrolled in the second through seventh grades, 45 per cent will increase their reading scores at a rate of one month's gain for each month of instruction between the pretest and posttest, as measured by the Metropolitan Achievement Tests (MAT).

Based on the primary goal of the school's program to develop and improve pupils' reading skills, this objective attempted to realistically predict the number of pupils who would achieve the standardized gain of six months over an instructional period of the same time. The reading

TABLE 1

PUPILS SCORING AT LEAST EIGHTY PER CENT ON
COMPREHENSIVE INSTRUCTIONAL PROGRAM DIAGNOSTIC READING TESTS

(FIRST GRADE -- N=68)

		Robinson			Boyd			Total		
		Number of	Scores At Least 80 Per Cent		Number of	Scores At Least 80 Per Cent		Number of	Scores At Least 80 Per Cent	
Subtest	Skill	Scores	Number	Per Cent	Scores	Number	Per Cent	Scores	Number	Per Cent
B-1	Alphabet	31	27	87	18	14	78	49	41	84
B-2	Alphabet	31	26	84	18	11	61	49	37	76
B-3	Sight Vocab.	31	13	42	13	6	46	44	19	43
B-4	Sight Vocab.	31	15	48	17	2	12	48	17	35

(SECOND GRADE -- N=50)

B-1	Alphabet	16	16	100	9	9	100	25	25	100
B-2	Alphabet	16	16	100	10	9	90	26	25	96
B-3	Sight Vocab.	16	7	44	11	1	9	27	8	30
B-4	Sight Vocab.	16	9	56	11	0	0	27	9	33
C-1	Phonics	16	15	94	--	-	-	16	15	94
C-2	Phonics	16	9	56	--	-	-	16	9	56
C-3	Phonics	16	5	31	7	7	100	23	12	52

TABLE 2

GRADE EQUIVALENT ENDING LEVELS FOR THE
SUBTESTS OF THE METROPOLITAN ACHIEVEMENT TESTS

FIRST GRADE

Subtest	Robinson: N=27 Percentage Scoring On or Above Grade Level	Robinson: N=27 Mean Ending Level	Boyd: N=32 Percentage Scoring On or Above Grade Level	Boyd: N=32 Mean Ending Level
Word Knowledge	33.3	1.7	15.6	1.4
Word Analysis	29.6	1.5	9.4	1.2
Reading	40.7	1.7	67.7	1.7
Total Reading	37.0	1.7	38.7	1.6

SECOND GRADE

Subtest	Robinson: N=22 Percentage Scoring 1.7 - 2.6	Robinson: N=22 Percentage Scoring 2.7 or above	Robinson: N=22 Mean Ending Level	Boyd: N=22 Percentage Scoring 1.7 - 2.6	Boyd: N=22 Percentage Scoring 2.7 or above	Boyd: N=22 Mean Ending Level
Word Knowledge	50.0	13.6	2.0	42.1	5.3	1.8
Word Analysis	59.1	4.5	1.8	38.9	5.6	1.6
Reading	63.7	9.1	1.9	50.0	5.6	1.8
Total Reading	28.6	14.3	2.0	42.1	5.3	1.8

comprehension subtest of the MAT was used to determine the accomplishment of this objective.

Table 3 (see page 19) lists the frequencies of gain scores by grade level for pupils who ended the school year at Robinson and for pupils who ended the year at Boyd. Only in the seventh grade at Boyd did at least 45 per cent of the pupils achieve six-months gain. This entire seventh grade had been transferred from Robinson to Boyd Elementary School and 56 per cent of them made a six-month gain or more in reading. Mean gains listed in Table 3 averaged about three months or one half of the standardized gain of six months.

Objective D: Those 30 pupils enrolled in the sixth grade class using the Science Research Associates (SRA) Programmed Individualized Instruction Program will show statistically significant gains in basic computational skills as measured by the difference between the pretest and posttest scores on the SRA Diagnosis: An Instructional Aid Inventory.

This objective was designed to measure pupils achievement in a program which constantly assessed their growth in computational skills and which allowed them to assume responsibility for their own work through self-evaluation.

Although 30 pupils participated in the class, scores on the SRA Inventory were received for only 18. Descriptive statistics on these scores and the resulting t-statistic are shown in Table 4 (see page 20). The statistical significance of the t-ratio at the .01 level indicated that the gain made on this test was significantly greater than zero. Observation of the inventory itself suggested that even a moderate gain made on the instrument would be commendable because the difficulty of the problems increased rapidly and not gradually. Therefore, a big increase in the raw scores would not be expected.

The MAT scores on the computation subtest were also observed for significant changes which may have resulted from the SRA program. The scores of only those pupils for whom SRA inventory scores were available were considered. The mean gain of these pupils who were exposed to the program for seven months was four months. The remainder of the sixth grade at Boyd, including both transferred Robinson pupils and others, were exposed to the program from March until May. The mean gain for these pupils was only one month.

The individualized SRA program was better suited to the open classroom situation into which Robinson pupils were transferred than to the self-contained classrooms from which they came. Continuation of the program in the 1972-73 school year should yield more significant results.

TABLE 3

FREQUENCIES OF GAIN SCORES ON THE
READING SUBTEST OF THE METROPOLITAN ACHIEVEMENT TESTS

		Gain in Months								
		0		1-3		4-5		6		
School	Grade	No.	Per Cent	No.	Per Cent	No.	Per Cent	No.	Per Cent	Mean Gain
Robinson	2	4	18	6	27	4	18	8	36	4
	3	10	42	3	13	5	21	6	25	3
	5	10	50	3	15	1	5	6	30	3
Boyd	2	5	28	9	50	1	6	3	17	3
	3	8	32	3	12	6	24	8	32	4
	5	9	45	5	25	1	5	5	25	3
	6	17	68	1	4	0	0	7	28	2
	7	8	24	3	9	4	12	19	56	3

TABLE 4

DESCRIPTION OF SCORES ON THE SRA DIAGNOSIS: AN INSTRUCTIONAL AID INVENTORY AND THE COMPUTATION SUBTEST OF THE METROPOLITAN ACHIEVEMENT TESTS FOR A SIXTH GRADE EXPERIMENTAL CLASS

SRA Diagnosis	No. of Scores	Mean	Median	Standard Deviation	Range	t-ratio
Pretest	18	5.3	5.5	3.7	0,12	--
Posttest	18	11.7	8.0	9.0	2,30	--
Gain	18	6.4	4.0	7.4	-3,20	3.68*

Computation Subtest	No. of Scores	Mean	Median	Standard Deviation	Range	t-ratio
Gain	18	4 mos.	4 mos.	6.6 mos.	-9,17	2.57**

*Significant at the .01 level.

**Significant at the .05 level.

Objective E: Pupils will increase last year's (1970-71) attendance average of 88 per cent by at least one per cent for the current year (1971-72).

With the assistance of a social worker provided by Title I, the staff at Robinson Elementary School hoped to show improved attitude toward school by increasing the pupils' percentage of attendance.

Because of the transfer of Robinson pupils to Boyd, attendance figures for all pupils initially enrolled at Robinson were not easily accumulated. Therefore, no direct comparison of attendance was made for only Robinson pupils for 1970-71 and 1971-72. However, cumulative percentages of attendance are listed by grade level in Table 5 (see page 22) for pupils of Robinson and pupils of Boyd. Figures for Robinson include all pupils who attended Robinson from September to March and pupils who remained at Robinson from March to June. Figures for Boyd School cover the period from March to June and include the pupils who transferred from Robinson as well as pupils who came in from other schools.

The attendance figures for 1971-72 for both Robinson and Boyd Elementary Schools equalled or improved the attendance figures of 1970-71 for Robinson on every grade level. Both schools also increased their overall attendance figures by more than the one point specified in the objective. These figures at least imply that the original enrollment of Robinson for 1971-72 probably increased its overall attendance and met the behavioral objective.

Analysis of Reading Performance: 1971-1972

While the main thrust of the behavioral objectives for R. C. Robinson School was directed toward the reading program of only the primary grades, basic skills for reading comprehension were generally emphasized throughout the entire school. The readiness and achievement scores of all pupils were therefore observed for possible indication of strengths and weaknesses of the general program. When possible, the scores of all pupils initially enrolled at Robinson in September, 1971 were considered. In these instances pupils who ended the year at Robinson were separated from Robinson pupils who were transferred to Boyd. However, most analyses were developed only for pupils who spent the entire year at Robinson, due to a lack of time to gather data about the transferred pupils.

Kindergarten pupils who completed the school year at Robinson were administered the Basecheck in May of 1972 to determine their readiness for first grade. The mean score on this instrument as shown in Table 6 (see page 23) was 77.5 or 81.6 per cent of the total possible score. While scores in each of the five areas were relatively close,

TABLE 5

CUMULATIVE PERCENTAGES OF ATTENDANCE
BY GRADE LEVEL FOR ROBINSON AND
BOYD ELEMENTARY SCHOOLS

	Robinson		Boyd
Grade	1970-71	1971-72	1971 - 72
K	83	85	87
K	72	--	--
1	88	90	91
2	84	91	90
3	89	91	91
4	90	92	90
5	91	91	95
6	89	--	92
7	92	--	92
School	88	90	91

TABLE 3
PERFORMANCE OF ROBINSON'S PUPILS ON THE BASECHECK *
(KINDERGARTEN -- N= 14)

Categories	Maximum Score	Mean Score	No. Scoring Maximum
Self-concept	11	10.5	11
Language			
Colors	5	4.2	10
Shapes	5	3.7	4
Relationships	8	7.2	5
Prepositions	5	4.4	7
Labeling	10	8.6	4
Total	33	28.1	0
Visual Perception			
Same and Different	5	3.9	6
Letter Recognition	10	8.2	9
Knowing What a Word Is	1	0.1	2
Visual Memory	3	1.5	2
Total	19	13.7	0
Auditory Perception			
Reproducing Taps	4	3.0	7
Following Directions	2	1.5	9
Repeating Sentences	3	2.5	7
Repeating Numerals	3	2.6	9
Rhyming	5	3.2	6
Total	17	12.9	0
Number Concepts			
Recognition of Numerals	5	3.9	8
Conservation of Numbers	4	3.9	13
More and Less	2	1.9	13
Ordinal Numbers	4	2.6	5
Total	15	12.3	0
Overall Total	95	77.5	0

*Basecheck given in May, 1972.

pupils were very strong in Self-Concept and somewhat stronger in Language and Number Concepts than in Visual Perception and Auditory Perception. Slightly more than half of all subtest scores were perfect scores. Generally, pupils scored high enough to indicate that they were well-prepared to enter the first grade.

The Basecheck was not administered to kindergarten pupils at Boyd Elementary School.

Computer analysis of achievement scores in reading was done to determine the effects of mobility on test performance. The pretest scores of pupils who took only the pretest were compared to the pretest scores of pupils who took both the pretest and the posttest and who were, therefore, assumed to have been enrolled in the school for the entire year. Because of the transfer of pupils to Boyd in March before the administration of the posttest, the bulk of the pretest scores of pupils who took only the pretest belonged to Robinson pupils who were transferred to Boyd. Thus, the statistical analysis, in effect, compared the pretest scores of Robinson pupils who were transferred to Boyd to the pretest scores of pupils who were not transferred. These defined populations may not be exact but are very close.

No statistical significance resulted from the comparison of the transferred pupils to the non-transferred pupils in a t-test of independent measures. Data available for grades two, three and five and reported in Table 7 (see page 25) showed that the groups began the school year within one month of each other. Since pupils were transferred on the basis of the geographic location of their homes, the insignificance of the test implies that the two populations are relatively the same in the area of reading achievement. Based on this finding, the achievement of the two schools should be watched closely to determine if the new cluster classroom situation of Boyd affects performance differently than the self-contained situation of the older facility.

Mean posttest scores for Robinson and Boyd pupils who were initially enrolled in Robinson may be observed in Table 8 (see page 25). Grades one through five at Robinson scored within two months of their counterparts at Boyd, insinuating that no significant change occurred because of the move into new facilities. In both schools, first graders were performing on grade level but other grades lagged far behind the national norm of the seventh month of the grade level. From these data, it appears that little progress is made after the first grade until pupils enter the fourth grade where mean scores averaged ten months higher than third grade scores. The fifth grades in both schools had only ten per cent of the pupils scoring within one year of grade level or above, but this percentage equalled only four pupils in both Boyd and Robinson Schools. The entire sixth and seventh

TABLE 7

PRETEST READING SCORES FOR PUPILS ASSIGNED TO ROBINSON AND PUPILS ASSIGNED TO BOYD IN APRIL, 1972

	Pupils Ending At Boyd			Pupils Ending at Robinson			
Grade	No.	Mean	S.D.	No.	Mean	S.D.	t-Score
2	22	1.6	0.8	22	1.5	0.2	0.87
3	28	1.8	0.5	24	1.9	0.4	-1.02
5	35	3.4	0.5	20	3.4	0.5	0.43

TABLE 8

FREQUENCIES OF POSTTEST SCORES ON THE READING SUBTEST OF THE METROPOLITAN ACHIEVEMENT TESTS APRIL, 1972

			Percentage of Posttest Scores				
ROBINSON	Grade	N	More than 2 yrs. behind	13 months to 2 yrs. behind	1 month to 1 yr. behind	On or above grade level	Posttest Score
	1	27	--	--	59.3	40.7	1.7
	2	22	--	27.2	63.7	9.1	1.9
	3	24	12.5	62.5	20.8	4.2	2.2
	4	41	17.1	53.4	22.0	7.3	3.3
	5	20	55.0	35.0	5.0	5.0	3.7
BOYD	Grade	N	More than 2 yrs. behind	13 months to 2 yrs. behind	1 month to 1 yr. behind	On or above grade level	Posttest Score
	1	32	--	--	32.3	67.7	1.7
	2	22	--	44.4	50.0	5.6	1.8
	3	25	20.0	64.0	16.0	0.0	2.2
	4	35	31.4	57.1	8.6	2.9	3.1
	5	21	38.1	52.3	4.8	4.8	3.8
	6	25	72.0	28.0	0.0	0.0	3.9
	7	36	58.3	13.9	19.4	8.3	4.7

grades which were transferred to Boyd averaged three years behind the appropriate grade level. Such unusually poor performance in reading demands scrutinization of the reading program with attention to the causes of increased achievement in the fourth grade.

At Robinson School where attendance for the school year was accessible, the correlation between attendance and reading gain was tested for statistical significance. No significant correlations were found for the three grades involved. Exact correlations are listed in Table 9 (see page 27).

Longitudinal View of Reading Performance: 1970-71 and 1971-72

For the past two years Robinson Elementary School's instructional program has emphasized the teaching of reading skills. Both the general program and supportive projects focused attention on this area by providing personnel, materials, and more extensive instruction. Standardized test data for the two years is presented here in Table 10 (see page 27) as an indication of the longitudinal achievement of the Robinson pupils.

Pupil achievement as reflected in mean reading scores in 1971-72 did not noticeably differ from 1970-71 except in the second grade. The mean scores in the second grade for 1971-72 were three and four months higher than the previous year for Boyd and Robinson pupils respectively. Note that Boyd pupils included only those who were transferred from Robinson School. The trend previously discussed for pupils of 1971-72 to reach grade level in the first grade but to then make little gain until the fourth grade was repeated from the previous year. Likewise, little gain was made after the fourth grade until pupils reached the seventh grade when a more significant gain was made.

This trend of peaking in grades one, four and seven was somewhat reflected in the number of pupils who achieved at least a sixth month gain in 1970-71. Grades four and seven again showed the largest percentage of pupils gaining six months or more. Data from Robinson were not available for 1971-72 for these grade levels but scores for Robinson pupils who went to Boyd suggest a similar conclusion although information was very incomplete.

For pupils who remained at Robinson for the entire year, analysis of reading scores was done to relate actual achievement to predicted achievement and to national norms. A regression equation employing factors of attendance, mobility, socio-economic status, pupil-teacher ratio, percentage of pupils passing and standardized pretest scores formulated predictions of posttest scores and resulting gains. A ratio of actual gain to predicted gain yielded a percentage described as a gain rate of effectiveness. Gain was predicted on the basis of the six months between pre and post tests. Another ratio of the actual posttest score divided by the national norm for the respective grade level resulted in an index of acceptability. Table 11 (see page 28)

TABLE 9

CORRELATION BETWEEN METROPOLITAN ACHIEVEMENT TESTS
READING GAIN SCORES AND ATTENDANCE

Grade	D. F.	Coefficient of Correlation
2	20	.0937
3	22	.0991
5	18	.2886

TABLE 10

COMPARISON OF MEAN SCORES AND FREQUENCIES ON THE READING
SUBTEST OF THE METROPOLITAN ACHIEVEMENT TESTS
FOR 1970-71 AND 1971-72

	1970-71 ROBINSON			1971-72 ROBINSON			BOYD		
Grade	Posttest Score	Gain in months	Percentage Gaining 6 mos. or more	Posttest Score	Gain in months	Percentage Gaining 6 mos. or more	Posttest Score	Gain in months	Percentage Gaining 6 mos. or more
1	1.7	-	-	1.7	-	-	1.7	-	-
2	1.5	3	23	1.9	4	36	1.8	3	17
3	2.0	5	38	2.2	3	25	2.2	4	32
4	3.4	7	55	3.3	-	-	3.1	-	-
5	3.7	5	46	3.7	3	30	3.8	3	25
6	4.0	5	26	-	-	-	3.9	2	28
7	4.6	5	50	-	-	-	4.7	3	56

TABLE 11

EFFECTIVENESS AND ACCEPTABILITY OF
PUPIL PERFORMANCE ON THE READING SUBTEST
OF THE METROPOLITAN ACHIEVEMENT TESTS

1972

Grade	Actual Pre	Actual Post	Acceptable Post	Predicted Post	Gain Actual	Gain Predicted
2	1.4	1.9	2.7	1.6	.5	.2
3	1.8	1.9	3.7	2.2	.1	.4
4	1.7	3.0	4.7	2.5	1.3	.8
5	3.0	3.6	5.7	3.5	.6	.5

Grade	Gain Rate of Effectiveness 1971-72	Gain Rate of Effectiveness 1970-71	Index of Acceptability 1971-72	Index of Acceptability 1970-71
2	250	50	70	52
3	25	33	51	48
4	162	100	64	57
5	120	100	63	60
Average	136	71	62	55

shows the changes in effectiveness and acceptability that occurred over the two years. Scores quoted in this table may differ from scores quoted in other sections of this report. The population described in Table 11 includes scores of all pupils who took the tests whereas other figures included only matched pre and post scores.

Pupils of Robinson Elementary School improved their effectiveness in reading in 1971-72 by 68 points. Every grade level from two to five increased its effectiveness to over 100 points except the third grade whose rate fell from 33 to 25 and whose actual gain was only one month. The 200 point improvement in the second grade was based on a predicted gain of only two months, causing concern for the reason for the low prediction. When following grades two, three and four of 1970-71 to their respective grade levels of 1971-72, it was observed that only the second grade did not improve its gain rate of effectiveness as third graders.

The mean index of acceptability for 1971-72 increased by seven points over the previous year. Every grade from two through five improved its index with the second grade showing the greatest improvement, equal to eighteen points. Following the groups longitudinally, the second grade of 1970-71 was the only group to decrease its index in 1971-72 as the third grade but the decrease was only one point. The index of acceptability for various grade levels must be considered cautiously because it implies different levels of achievement for different grade levels. The same index finds second grade pupils much closer to the norm than pupils of higher grades. For example, in the fourth and fifth grades where the indices of acceptability are 64 and 63 respectively, the fourth grade was one year and seven months behind grade level whereas the fifth grade was two years and one month behind the norm. Therefore, upper grades must maintain higher indices of acceptability to remain close to standard norms.

From the information on reading effectiveness and acceptability, the third grade caused the most concern. Not only were both its rate and its index the lowest of all grades for both years, but as a defined group of pupils, their effectiveness and acceptability decreased from the previous year. These data support previously discussed concerns that little progress is made after the first grade until pupils enter their fourth year.

XII. CONCLUSIONS

The following conclusions were drawn, based on evaluative data already presented. Conclusions were made in regard to only those pupils from Boyd and Robinson schools who were initially enrolled at Robinson in the 1971-72 school year.

A. Pupils in the first grade generally performed on grade level in the area of reading comprehension and reading skills.

B. Pupils in the second grade averaged one year behind the national norm in the area of reading and reading skills.

C. First and second grade pupils generally performed better in reading comprehension than in word analysis.

D. Some difference in test performance was observed between first and second grade pupils enrolled in Robinson and those enrolled in Boyd, with Robinson pupils scoring somewhat higher.

E. Except in the seventh grade, 45 per cent of the pupils did not improve their reading scores at the standardized rate of one month of gain per month of instruction.

F. Pupils of both Robinson and Boyd made similar gains in reading on standardized achievement tests.

G. Sixth grade pupils using the SRA Programmed Individualized Instruction Program in math made statistically significant gains on the inventory associated with that program.

H. Sixth grade pupils using the SRA Program in math for seven months averaged three months greater gain on the computation subtest of the MAT than pupils exposed to the program for only three months.

I. All pupils of Robinson and Boyd Schools improved Robinson's previous year's attendance by at least two per cent.

J. At the end of the school year, kindergarten pupils at Robinson completed the Basecheck instrument with 82 per cent accuracy, indicating their readiness for first grade.

K. Pupils at Robinson and Boyd Schools in grades two, three and five did not statistically differ in achievement scores in the fall of 1971-72.

L. In the spring of 1972 pupils of Robinson and Boyd in grades one through five scored within two months of each other on standardized reading tests.

M. For pupils ending the year at Robinson, no significant correlation existed between attendance and reading gain.

N. Mean reading scores on standardized tests for 1971-72 did not noticeably improve over scores of 1970-71 except for the second grade.

O. Pupils tended to achieve better reading scores and greater gains

in grades one, four and seven than in other grades for both 1970-71 and 1971-72.

P. Pupils who remained at Robinson for the entire school year made greater gains than predicted in grades two, four and five.

Q. Grades two through five at Robinson achieved reading scores that were closer to national norms than scores of the previous year.

XIII. RECOMMENDATIONS

The following recommendations were made after consideration of stated goals, evaluative data, and the existent situation of dual facilities.

A. More emphasis should be placed on word attack skills in at least the first and second grades.

B. Consideration should be given to expanding the SRA Program in math or a similar program to include more pupils and other grade levels.

C. The instructional program should be analyzed to find out why pupils seem to consistently make greater reading gains in grades four and seven than in other grades.

D. Future scores of pupils attending Boyd and Robinson Schools should be examined for differences possibly wrought by the difference in facilities.

The principal and faculty of Robinson-Boyd Elementary Schools are to be commended for the cooperation and good faith displayed in the transfer required by the opening of new facilities. They are encouraged to intensify their efforts in those areas already selected to deserve emphasis in the instructional program and to capitalize on the causes of higher performance in the first, fourth and seventh grades.